



Robert B. Wiygul  
Partner

robert@wwglaw.com

February 21, 2017

Frank Renda  
President  
Oscar Renda Contracting, Inc.  
608 Henrietta Creek Rd  
Roanoke, TX 76262

Oscar Renda Contracting, Inc.  
c/o National Registered Agents Inc.  
645 Lakeland East Dr, Ste 101  
Flowood, MS 39232

Re: Notice of Intent to File Citizen Suit Under Section 505(b)(1) of the Federal  
Water Pollution Control Act, 33 U.S.C. § 1365(b)

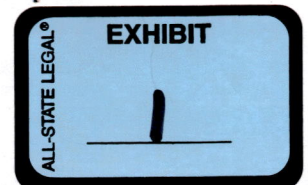
Dear Mr. Renda:

This letter is to give you notice that Oscar Renda Contracting, Inc. ("Oscar Renda") has violated and remains in continued violation of the terms of the Large Construction Storm Water Permit (the "Construction Storm Water Permit")<sup>1</sup> and eight phase-specific Storm Water Pollution Prevention Plans ("Pollution Prevention Plans") associated with the City of East Biloxi Street Repair Program (commonly referred to as "the East Biloxi Street Project"). The areas of the East Biloxi Street Project included in this notice are those in the map included as Exhibit 1. These violations constitute violations of the federal Clean Water Act and the Mississippi Water Pollution Control Law.

Virtually none of the protective measures against storm water pollution required by the Construction Storm Water Permit and the Pollution Prevention Plans have been implemented. Those that have been put in place have in many instances been rendered completely ineffective by neglect. Oscar Renda's permit violations have caused massive flows of sediment polluted storm water into Keegan Bayou, Auguste Bayou, and Biloxi Bay. This has directly damaged aquatic habitat and public resources.

The Construction Storm Water Permit, the Pollution Prevention Plans and the

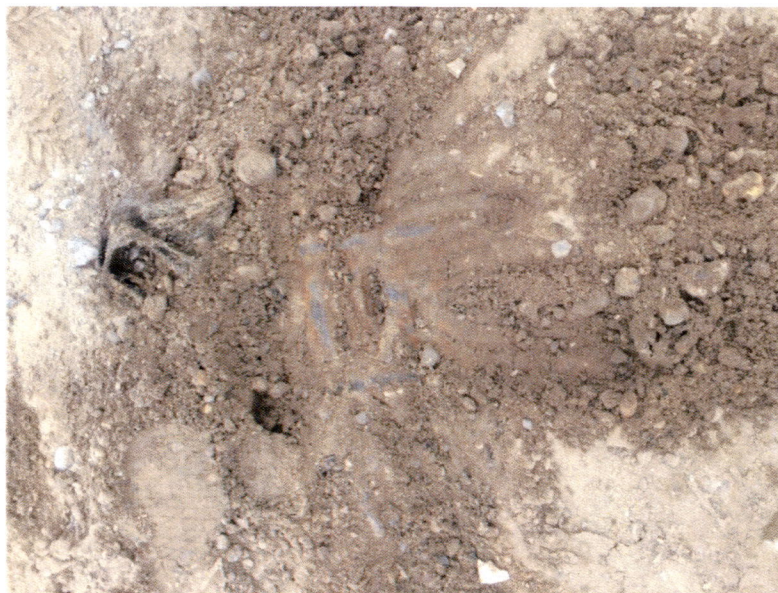
<sup>1</sup> At the time the East Biloxi Street Project began, Construction Storm Water Permit Number MSR105846 was in effect. This permit has since been superseded by Construction Storm Water Permit Number MSR10. As the permits contain similar terms, references herein to the "Construction Storm Water Permit" shall encompass both documents.



construction plans for the East Biloxi Street Project specifically require that storm drains have protective measures to filter storm water. These include straw wattles, sediment fencing, and other measures. Despite this fact, very few of the storm drains in the project area have any type of sediment filtering, and most of those that do have not been maintained.

The exact number of storm drains that lack the required pollution protections in the project area is unknown, but numbers in the hundreds. As a representative sample of the scope of the problem, a review conducted February 15, 2017, in the GRN5 East Biloxi Street Project area, revealed that, out of approximately 45 storm drains observed in areas of ongoing construction, only 6 (13%) had visible protection measures in place, with signs of ineffective plastic wattle or fabric becoming visible at another 2 buried drains only after digging beneath inches of dirt. Two of the six “protected” drains were obstructed despite the presence of one or two sandbags. Another two of the six had ineffective wattling where sediment had pushed through or pushed the wattle into the drains, causing partial obstructions. Only 2 of the 45 total drains had wattling in place that appeared to be keeping the drains both open and clear of sediment (and the wattling on one of those showed signs of deterioration). Storm drains in this area were specifically identified in the drawings submitted with the Pollution Prevention Plan for this area as having runoff protection.

The photograph below shows one of the storm drains in the GRN5 East area which was buried entirely under such a thick covering of hard-packed dirt that referencing the construction map was the only way to locate it.





Still other drains are gaping from broken concrete, or have been unattended so long that vegetation is growing in them.



Many of the storm drains in areas of the project still under construction are fully or partially choked with sediment as a result of the lack of pollution controls.



The Construction Storm Water Permit and the Pollution Prevention Plans also require measures such as sediment fencing on the edge of disturbed areas. This type of control is critical to filter sediment out before it can affect aquatic habitats. Oscar Renda's failure to install these simple measures has allowed large amounts of eroded sediment to flow directly into the water bodies adjacent to the project. These flows are so large that they change the color of the receiving waters to a milky brown. The photograph below was taken on February 7, 2017, at Lee Street and Auguste Bayou. It clearly shows a large stream of highly silt-laden water entering a bayou that is already milky with silt from upstream construction on the East Biloxi Street Project.



Sediment flows have been so heavy in many areas that large deposits have built up in the receiving waterways, as demonstrated below.





Piles of earth and rock construction material have ineffective or no erosion controls, and have washed into sensitive receiving waters. Some materials appear to have been dumped directly into navigable waters, in violation of Section 404 of the Clean Water Act.



The scope of the storm water pollution problems associated with Oscar Renda's work is hard to overstate. It appears that Oscar Renda removed approximately 55 miles of hard-surfaced urban roadway largely simultaneously, and a large amount of this area remains unstabilized. Such a large surface area of exposed dirt has resulted in a huge sediment load entering Biloxi's waterways with each rainfall. It is unclear why Oscar Renda took this action, and why adequate protections against polluted storm water have not been put in place.

Oscar Renda must take immediate action to remedy the violations set forth herein, comply with its Construction Storm Water Permit and Pollution Prevention Plans, and implement and maintain the storm water safeguards necessary to mitigate the harm caused by its poor housekeeping practices and prevent further damage. The following information is designed to assist Oscar Renda in understanding its obligations in this respect.

I. Identity of Gulf Coast Restoration Network

The Gulf Restoration Network (“GRN”) is a nonprofit entity that serves as an umbrella organization for a diverse network of local, regional, and national groups dedicated to protecting and restoring the valuable resources of the Gulf of Mexico. GRN has members in the five Gulf States of Texas, Louisiana, Mississippi, Alabama, and Florida, and nationwide. Members of GRN live, work, or recreate near the East Biloxi Street Project construction areas and the affected waterbodies, including Auguste Bayou, Keegan Bayou, the Back Bay of Biloxi, and Biloxi Bay. GRN can be reached through its main office, as follows:

Gulf Restoration Network  
P.O. Box 2245  
New Orleans, LA 70176  
Phone: (504) 525-1528

II. Effect of the Violations on Public Resources

As set out above, uncontrolled sediment filled storm water from the East Biloxi Street Project has affected and continues to affect the health of Auguste Bayou, Keegan Bayou, the Back Bay of Biloxi, and Biloxi Bay.

This uncontrolled sediment pollution directly impacts valuable public resources. Sediment laden storm water is well documented to affect water clarity, preventing normal plant growth, disrupt the food chain by destroying habitat, affect the health of fish and other wildlife, introduce excessive nutrients, and impact recreational use. All of these impacts are occurring as a result of the Clean Water Act violations associated with the East Biloxi Street Project.

In its Comprehensive Plan (adopted December 2009), the City of Biloxi recognized the importance of its aquatic resources, which not only “literally shape the City’s boundaries,” but “also have supported its development and growth in fishing, trading, shipbuilding, and tourism,” making such resources “key to the local heritage, culture, and economy.” Specifically, the Back Bay of Biloxi and Biloxi Bay “are important estuarine water bodies in the region. The bays perform numerous functions, including seafood production, wildlife and fish habitat, recreation, and scenic views.” Development of coastal wetlands has led to habitat loss and “significant pressure on the environmental resources and fishery stocks of the Gulf Coast.” The health of the bays “is dependent on the overall quality of water in the region.”<sup>2</sup>

Likewise, the City has recognized that wetlands and bayous “promote resiliency from storm threats.”<sup>3</sup> Auguste Bayou is one of the receiving waters associated with the East Biloxi Street Project and is located in the inner-city of Biloxi. The bayou was the

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<sup>2</sup> <https://www.biloxi.ms.us/departments/community-development/comprehensive-plan/>

<sup>3</sup> <https://www.biloxi.ms.us/pdf/existingconditionsTEXTonly.pdf>



subject of a multi-year collaborative community restoration effort to address degraded streambanks, sedimentation, and other environmental issues. The project received a First Place 2015 Gulf Guardian Award from the United States Environmental Protection Agency. The bayou plays an important role in the overall health of the Gulf ecosystem. Erosion and sediment pollution as a result of Oscar Renda's failure to employ best management practices for storm water have reversed these restoration efforts.<sup>4</sup>

Keegan Bayou is another Biloxi bayou affected by the East Biloxi Street Project. Members of a private/public partnership described Keegan Bayou as follows in an application submitted to the Coastal Impact Assistance Program:

Keegan Bayou is an intertidal marsh system that historically has provided an important habitat for many estuarine plants and animals and functions as a drainage system for the urban areas around it. In recent years, deterioration of the bayou's environmental quality has become a major concern of the City of Biloxi and its residents.<sup>5</sup>

In light of existing impacts caused by Interstate 110 runoff and urban drainage, best management practices are especially important to avoid further degradation.

### III. Legal Overview

The Federal Water Pollution Control Act (also known as the Clean Water Act) prohibits storm water discharges except in compliance with the terms of a permit such as Oscar Renda's Construction Storm Water Permit. 33 U.S.C. §§ 1311, 1342(p). The Construction Storm Water Permit mandates compliance "with all conditions," including the creation of Pollution Prevention Plans that satisfy minimum site-specific criteria "designed to retain sediment on-site and to minimize the discharge of pollutants."<sup>6</sup> Permit ACT11, No. T-1; Permit ACT5, No. T-2. In turn, the Pollution Prevention Plans mandate "the design, installation, implementation and maintenance of effective pollution prevention measures." Permit ACT5, No. T-1. "Failure to implement the [Pollution Prevention Plans] is a violation of permit requirements." Permit ACT6, No. S-1.

Likewise, the Mississippi Air and Water Pollution Control Law ("the Law") makes it "unlawful for any person to cause pollution of any waters of the state" except in compliance with permit requirements. Miss. Code Ann. 49-17-29(a) & (b). Regulations promulgated under the authority of the Law similarly require Pollution Prevention Plans to comply with Construction Storm Water Permits. 11 Miss. Admin. Code Pt. 6, R.1.

<sup>4</sup> <https://www.epa.gov/newsreleases/mississippi-state-universitys-gulf-community-design-studio-receives-first-place-epa>

<sup>5</sup> [http://www.deq.state.ms.us/MDEQ.nsf/0/6D48A16A789BC13A86256CA900591931/\\$file/MS.24.05.pdf?OpenElement](http://www.deq.state.ms.us/MDEQ.nsf/0/6D48A16A789BC13A86256CA900591931/$file/MS.24.05.pdf?OpenElement).

<sup>6</sup> The term "pollutant" includes, but is not limited to, rock, sand, sediment, and silt. Permit ACT12, No. T-25.

#### IV. Specific Violations

Oscar Renda has Pollution Prevention Plans in place for each of the eight East Biloxi Street Project phases. The Pollution Prevention Plans contain similar provisions. Upon information and belief, Oscar Renda's violation of such Pollution Prevention Plans has been consistent across each of the eight East Biloxi Street Project phases. Accordingly, the Pollution Prevention Plans will be discussed together. Oscar Renda has committed the following violations of the Construction Storm Water Permit and/or Pollution Prevention Plans:

- Failure to “assure compliance” with the Construction Storm Water Permit through the creation and implementation of Pollution Prevention Plans involving “effective pollution prevention measures.” Permit ACT5, No. T-1. As the photographs included on the CD submitted with this notice letter demonstrate, the East Biloxi Street Project area lacks effective pollution prevention measures in dozens of sites.
- Failure to achieve and maintain compliance with the overall objectives of the Pollution Prevention Plans: “to limit exposure of disturbed areas for the shortest time possible, disturb the smallest area possible, preserve vegetation where possible, slow rainfall runoff velocities to prevent erosive flow, and re-establish vegetation as quickly as possible following construction.” SWPPPs, Section 3.0. By tearing up miles of roadways well before any work could be done to resurface or stabilize them, Oscar Renda has failed to limit disturbed areas to the shortest time period and smallest area possible.
- Failure to comply with the eight-part phasing-schedule contemplated by the Construction Storm Water Permit and eight separate Pollution Prevention Plans, to “sequence construction activities so as to concentrate work in certain areas so as to minimize the amount of soil that is exposed at one time,” or to claim with adequate written justification that such phasing/sequencing is infeasible. Permit ACT5, No. T-8(F).
- Failure to include best management practices that “reflect the specific conditions of the construction site. Permit ACT5, No. T-4. In fact, the specific conditions of each site do not appear to be taken into account at all.
- Failure to implement necessary structural controls including the diversion of flows from exposed soils and/or otherwise limiting runoff from exposed areas, silt fences, earth dikes, fiber rolls, drainage swales, outlet protection, sediment traps, check dams, perimeter controls, and equivalent sediment controls. Permit ACT5, Nos. T-2, T-3, T-6, T-7 & T-8; SWPPPs, Section 3.2. The attached photos show a sample of the storm drains which have been left exposed to uncontrolled sedimentation. The



photos also show uncontrolled sediment movement directly into Keegan Bayou and August Bayou, without any sediment fencing or other perimeter controls.

- Failure to recognize inability to “effectively control the daily transport of sediment onto the adjacent streets” and to implement effective construction entrances and exits. SWPPPs, Section 3.2.
- Failure to have adequate procedures in place for the removal of accumulated sediment and to timely mitigate and prevent the migration of soil and debris from the East Biloxi Street Project sites. Permit ACT5, No. T-10(A) to (C); SWPPPs, Section 3.2. As the photos demonstrate, accumulated sediment buries many storm drains.
- Failure to maintain, in good working order, the storm water control devices actually used throughout the duration of construction, including prompt repair and removal of sediment buildup. Permit ACT5, No. T-15; SWPPPs, Sections 5.0, 5.2. The photos included clearly demonstrate areas in which straw wattles are askew or completely ineffective.
- Failure to fully implement the Pollution Prevention Plans, install and maintain required structural practices and erosion controls, ensure best management practices, and amend the Pollution Prevention Plans where proven to be ineffective in controlling storm water pollution or preventing sediment from leaving the site. Permit ACT6, Nos. S-1(1), (2), & (5), S-2(7), (8), (9); S-3(11).
- Failure to ensure that storm water discharge is free from both “[e]roded soils and other materials that will settle to form objectionable deposits in receiving waters,” and “[s]uspended solids, turbidity and color at levels inconsistent with the receiving waters.” Permit ACT7, No. L-1. The deposits found in Keegan Bayou and August Bayou, as well as any deposits in Biloxi Bay, are continuing violations of the Clean Water Act until such time as they are remediated.
- Violations of the duty to comply and duty to mitigate. Permit ACT11, Nos. T-1, T-2.
- Failure to notify the Mississippi Department of Environmental Quality of both anticipated and unanticipated noncompliance as a result of significant rain events. Permit ACT11, No. T-17.

Upon information and belief, the violations began shortly after the August 4, 2014 start date of the 55-mile linear construction project and have continued with each subsequent rain event of significance through the present (see Exhibit 2, containing an underinclusive chart documenting 107 significant rain events that have occurred

between the project start date and the present).<sup>7</sup> Due to rain gauge locations, the attached chart fails to capture a number of additional rain events of significance that have occurred in the immediate vicinity of the East Biloxi Street Project. For example, one very significant rainfall event, with violations at multiple locations, occurred on February 7, 2017. Each storm drain which lacks the required and effective pollution protections is a separate violation of the Act. Each perimeter area of the project which drains directly to Keegan Bayou, Auguste Bayou, or Biloxi Bay and lacks required perimeter controls such as sediment fencing is a separate violation of the Act. Finally, each occasion on which accumulated storm water was pumped without application of Best Management Practices is a separate violation of the Act.

In addition, nine compact disks containing photographs of specific violations related to both local and regional rainfall events, and a corresponding chart with the date and location of those violations, are included as Exhibit 3 to this notice.

#### V. Remedies

In accordance with Section 505(b) of the Act, 33 U.S.C. § 1365(b), Gulf Coast Restoration Network hereby gives formal notice of its intent to file suit against Oscar Renda in federal court, after the expiration of 60 days from the date of this notice. Copies of this notice are being provided to the State of Mississippi, through its Department of Environmental Quality, and the United States Environmental Protection Agency.

Pursuant to Section 309(d) of the Act, 33 U.S.C. § 1319(d), and the regulation allowing for the Adjustment of Civil Monetary Penalties for Inflation, 40 C.F.R. § 19.4, each separate violation of the Act subjects Oscar Renda to a penalty of up to \$37,500 per day per violation for all violations occurring since August 4, 2014 up to and including November 2, 2015, and up to \$51,570 for violations occurring after November 2, 2015. In addition to civil penalties, GRN will seek injunctive relief preventing further violations of the Act pursuant to Sections 505(a) of the Act, 33 U.S.C. § 1365(a), and requiring Oscar Renda to remediate the damage to Auguste Bayou, Keegan Bayou, Biloxi Bay, and other affected waters. Finally, GRN will seek to recover costs and fees associated with this action, including attorneys' fees, as allowed for prevailing parties under Section 505(d) of the Act, 33 U.S.C. § 1365(d).

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<sup>7</sup> For purposes of this notice, rain events of significance mean specific dates on which NOAA weather stations in both Biloxi (Identification Number GHCND:USC00220792) and Ocean Springs (Identification Number GHCND:US1MSJC0015) measured rainfall of at least 0.1 inch. <https://www.ncdc.noaa.gov/cdo-web/search>.



VI. Conclusion

GRN hopes Oscar Renda will take prompt action to remedy the violations identified in this notice letter, and will meet with Oscar Renda to further discuss methods of compliance and answer any questions Oscar Renda may have. Please direct all correspondence to the undersigned counsel, via the address and telephone number below.

Sincerely,



Robert Wiygul  
1011 Iberville Dr.  
Ocean Springs, MS 39564  
Phone: (228) 872-1125

cc:

Scott Pruitt  
Administrator  
U.S. Environmental Protection Agency  
Office of the Administrator, 1101A  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

V. Anne Heard  
Acting Regional Administrator  
U.S. Environmental Protection Agency, Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960

Gary Rikard  
Executive Director  
Mississippi Department of Environmental Quality  
P.O. Box 2261  
Jackson, MS 39225

Andrew "FoFo" Gilich  
Mayor, City of Biloxi  
P.O. Box 429  
Biloxi, MS 39533

Biloxi City Council Office  
P.O. Box 429  
Biloxi, MS 39533

# Attention East Biloxi residents



Mayor A.J. Holloway  
and the

Biloxi City Council

George Lawrence

Felix Gines

Dixie Newman

Robert L. Deming III

Paul A. Tisdale

Kenny Glavan

David Fayard

The largest public works improvement project in the history of the city is coming to your neighborhood.

The three-year, \$116 million "North Contract" represents the bulk of the city's \$355 million Restore Biloxi Infrastructure Repair Program, part of the City's recovery from Hurricane Katrina. This is a major sewer, water and storm drain improvement project and we are sending you this notice to help make you aware of potential impacts to your neighborhood.

The North Contract will take place primarily in the areas north of the CSX railway from Forrest Avenue to the tip of Point Cadet. The project includes the replacement of the water mains, sanitary sewer lines and storm drains as well as the streets, curbs and sidewalks impacted by the construction work. As part of this project, eight pump stations will be eliminated, a new pump station will be constructed, and one pump station will be rehabilitated.

Major east-west thoroughfares, including Bayview Avenue, Division Street and Esters Boulevard, will be impacted during this work. But, to be clear, the work will impact nearly every street within these boundaries.

The work is scheduled to begin early August 2014 and is scheduled to be completed 1,100 days later, in August 2017. Some lane closures will be required over the course of the work as well as periodic short-term interruptions to water service. However, we will work to inform you about each of these in advance. You will see heavy equipment using the streets in and near construction zones. Any traffic detours will be clearly marked.

**A public meeting to discuss the North Contract project will be held Thursday, July 24 at 6 p.m. at the Gruich Center, 591 Howard Ave., Biloxi.** Representatives from the city, program manager HNTB, and contractor Oscar Renda Contracting will be on hand to answer any questions you might have. Try to attend this informational meeting if you want to learn more.

Save this postcard. Here are the contact numbers for you to keep handy should any issues arise during the course of the project:

<b>Contractor:</b>	Oscar Renda Contracting
<b>Project Manager:</b>	Tony Morrow 205-789-6504
<b>Field Superintendent:</b>	Max Hardin 817-368-2056
<b>Emergency Contact:</b>	Tony Morrow 205-789-6504

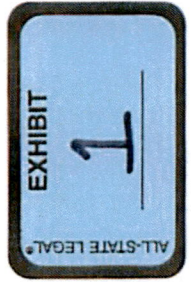
Sincerely,

*A.J. Holloway*

A.J. Holloway  
Mayor

*Marvin G. Dalla Rosa*

Marvin G. Dalla Rosa  
Program Manager, HNTB





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postcard.

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ECRWSS

East Biloxi businesses and residents,  
north of CSX railway

P.O. Box 429  
Biloxi, MS 39533



## Restore Biloxi Infrastructure Project

**Project area:**

The "North Contract" includes project  
areas SXSN, GRN1 & 2, GRN3, GRN4,  
GRN5, GRS1 & 2, GRS3 & 4 and DIV1 & 2

**Contractor:**

Oscar Renda Contracting

**Project Manager:**

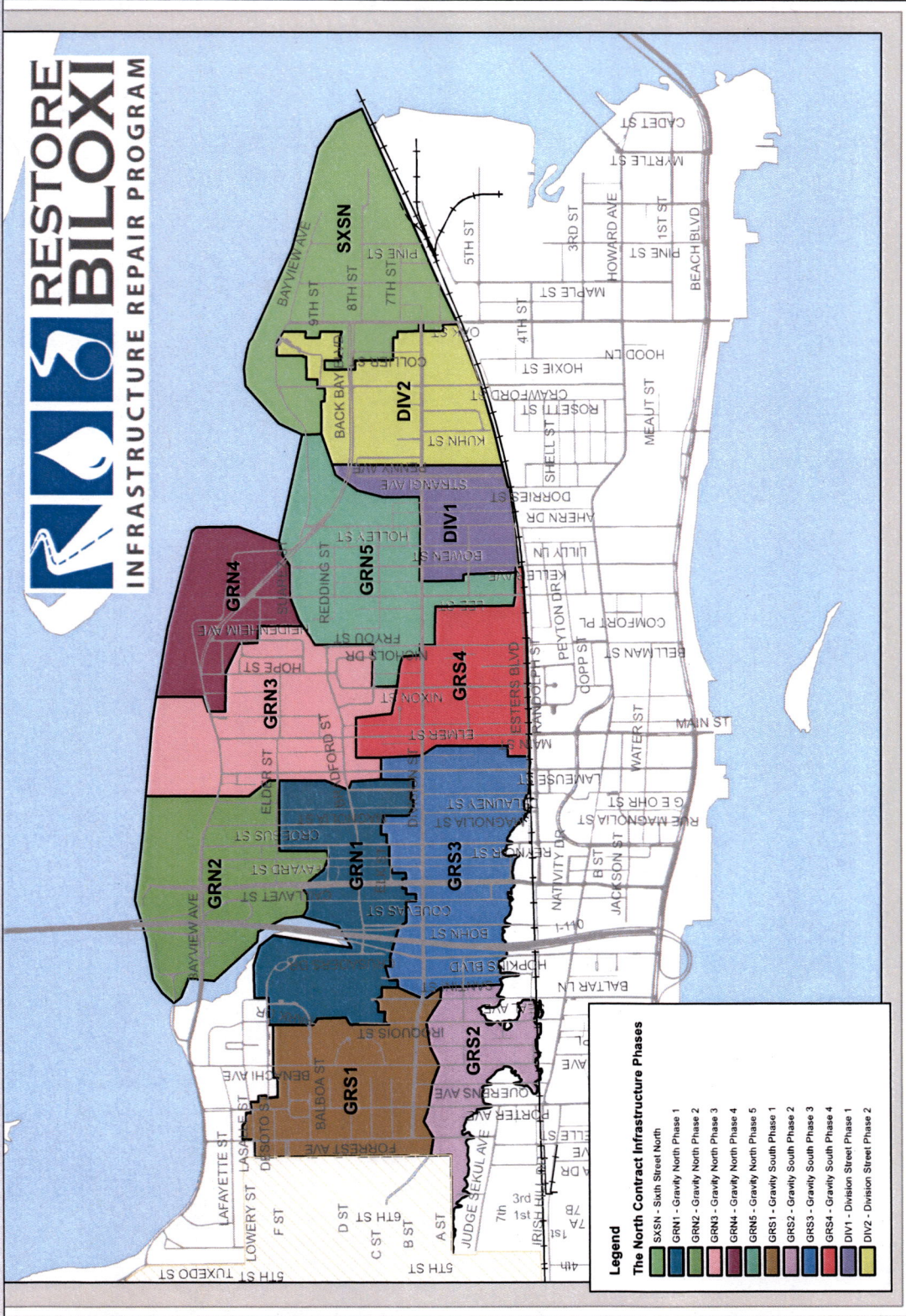
Tony Morrow 205-789-6504

**Field Superintendent:**

Max Hardin 817-368-2056

**Emergency Contact:**

Tony Morrow 205-789-6504





DATES OF STORM WATER VIOLATIONS BASED ON SIGNIFICANT RAINFALL EVENTS		
Date of Violation	Rainfall Amount - Biloxi (Station GHCND:USC00220792)	Rainfall Amount - Ocean Springs (Station GHCND:US1MSJC0015)
8/10/2014	1.3	0.37
8/29/2014	0.86	0.1
8/30/2014	0.14	0.16
9/11/2014	0.13	0.15
10/14/2014	0.88	0.85
11/13/2014	0.47	0.3
11/17/2014	0.8	0.85
12/19/2014	2.17	0.27
12/20/2014	0.69	1.47
12/22/2014	1.32	0.11
12/24/2014	1.06	0.76
12/28/2014	0.2	0.6
1/3/2015	0.74	0.1
1/4/2015	1.11	2.24
1/15/2015	0.58	0.25
1/23/2015	2.87	2.7
2/4/2015	0.66	0.11
2/17/2015	0.29	0.2
2/23/2015	0.33	0.15
3/2/2015	0.41	0.2
3/10/2015	1.6	1.1
3/11/2015	0.52	1.2
3/12/2015	0.36	0.42
3/13/2015	2.15	2.35
4/6/2015	0.54	0.2
4/11/2015	0.12	0.13
4/13/2015	4.94	3.72
4/14/2015	2.96	0.74
4/17/2015	0.49	0.4
4/18/2015	0.52	0.3
4/19/2015	0.16	0.35
4/28/2015	0.31	1.12
5/16/2015	0.71	0.27
5/17/2016	0.25	1.23
5/26/2015	1.01	0.37
6/9/2015	0.36	0.15
6/12/2015	0.34	0.59
6/13/2015	0.1	1
6/27/2015	0.7	0.38



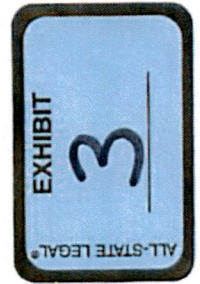


Date of Violation	Rainfall Amount - Biloxi (Station GHCND:USC00220792)	Rainfall Amount - Ocean Springs (Station GHCND:US1MSJC0015)
6/29/2015	0.68	0.46
7/1/2015	0.31	0.13
7/5/2015	2.21	1.25
7/6/2015	0.57	1.35
7/18/2015	0.93	0.75
7/25/2015	0.55	1.02
7/30/2013	0.73	0.24
7/31/2015	0.66	1.06
8/5/2015	0.26	3
8/9/2015	1.03	0.25
9/6/2015	0.52	0.2
9/12/2015	0.11	0.4
10/26/2015	1.63	2.42
10/27/2015	0.11	0.47
11/1/2015	1.93	1
11/8/2015	1.33	0.9
12/14/2015	0.48	0.58
12/17/2015	0.38	1.77
12/22/2015	2.09	2.03
12/23/2015	3.39	4.26
12/24/2015	0.51	0.4
12/28/2015	0.74	0.1
12/30/2015	3.67	1.9
1/1/2016	0.33	0.37
1/15/2016	1.5	1.53
1/21/2016	0.1	0.15
1/22/2016	1.12	1.11
1/27/2016	0.57	1.25
2/3/2016	1.55	1.02
2/23/2016	0.25	0.46
3/2/2016	0.14	0.2
3/4/2016	0.13	0.34
3/18/2016	0.57	0.38
3/19/2016	0.78	1.3
3/25/2016	0.18	1.75
4/2/2016	0.19	3.8
4/12/2016	0.79	0.44
4/13/2016	1.26	0.1
4/14/2016	0.62	1.46
4/28/2016	4.78	3.55

<u>Date of Violation</u>	<u>Rainfall Amount - Biloxi (Station GHCND:USC00220792)</u>	<u>Rainfall Amount - Ocean Springs (Station GHCND:US1MSJC0015)</u>
4/30/2016	0.32	1.13
5/1/2016	0.71	1.13
5/17/2016	1.9	0.21
5/20/2016	0.79	1.59
6/4/2016	1.96	1.17
6/5/2016	0.51	0.85
6/27/2016	0.1	0.85
6/29/2016	0.28	0.4
7/1/2016	0.29	0.1
7/20/2016	1.68	0.74
7/26/2016	0.7	1.6
8/4/2016	2.52	0.1
8/10/2016	0.32	0.6
8/11/2016	2.68	1.27
8/12/2016	3.3	1
8/13/2016	0.23	1.1
8/28/2016	0.36	1.52
9/5/2016	0.64	1
9/17/2016	0.93	2
11/8/2016	2.16	0.1
11/9/2016	0.52	0.9
11/29/2016	0.46	0.87
12/4/2016	1.86	1
12/5/2016	1.05	2
12/6/2016	0.34	1.47
1/1/2017	8.21	6.22
1/2/2017	3.62	1.98
1/6/2017	1.65	0.2
<b>Total: 107 Days of Storm Water Violations Based on Significant Rainfall Events</b>		



DESCRIPTION OF PHOTOS AND VIDEOS OF BILOXI INFRASTRUCTURE PROJECT CONSTRUCTION						
#	File Name	Medium	Date Taken	Location	Phase	Description
1	2016-01-02 13.22.21.jpg	Photograph	1/2/16	Division and Santini	NW edge of GRS3, driving West	Muddy street
2	2016-01-02 13.22.30.jpg	Photograph	1/2/16	Division and Iroquois	SE part of GRS1, driving West	Muddy street
3	2016-01-02 13.22.45.jpg	Photograph	1/2/16	Division and Benachi	S part of GRS1, driving West	Muddy street
4	2016-01-11 14.04.46.jpg	Photograph	1/11/16	Bayou Auguste, Lee St at Suarez St	GRN4/GRN5 border	Visible construction equipment, loose sediment/gravel, no control at edge of bayou, evidence of sediment entering bayou.
5	2016-01-11 14.04.49.jpg	Photograph	1/11/16	Bayou Auguste, Lee St at Suarez St	GRN4/GRN5 border	Visible construction equipment, loose sediment/gravel, no control at edge of bayou, evidence of sediment entering bayou.
6	2016-01-11 14.05.14.jpg	Photograph	1/11/16	Bayou Auguste, Lee St at Suarez St. From Lee St Bridge.	GRN4/GRN5 border	Visible construction equipment, loose sediment/gravel, no control at edge of bayou, evidence of sediment entering bayou.
7	2016-01-11 14.05.26.jpg	Photograph	1/11/16	Bayou Auguste, Lee St at Suarez St	GRN4/GRN5 border	Visible construction equipment, loose sediment/gravel, no control at edge of bayou, evidence of sediment entering bayou.
8	2016-04-16 10.57.22.jpg	Photograph	4/16/16	Benachi, just N of Oak Pk Village Neighborhood (just S of Balboa St)	GRS1	Unprotected drain, surrounded by sediment



#	File Name	Medium	Date Taken	Location	Phase	Description
9	2016-04-16 10.57.25.jpg	Photograph	4/16/16	Benachi, just N of Oak Pk Village Neighborhood (just S of Balboa St)	GRS1	Unprotected drain, surrounded by sediment
10	2016-04-23 13.37.07.jpg	Photograph	4/23/16	Division and Forrest	GRS1	Water truck turning around
11	2016-04-24 08.33.59.jpg	Photograph	4/24/16	Porter, headed S toward Division	GRS1	Dust cloud in background
12	2016-04-24 08.39.40-1.jpg	Photograph	4/24/16	Walking S on Porter toward Division near Cherokee St	GRS1	Heavily silted up storm strain, ineffective wattle
13	2016-04-24 08.39.40.jpg	Photograph	4/24/16	Walking S on Porter toward Division near Cherokee St	GRS1	Heavily silted up storm strain, ineffective wattle
14	2016-04-24 08.41.20.jpg	Photograph	4/24/16	S side of Division, just W of Porter	GRS1	Uncontrolled storm drain in front of Desportes Seafood
15	2016-04-24 08.41.22.jpg	Photograph	4/24/16	On Porter facing S, 25'-50' from bridge over Keegan Bayou	edge of GRS1/GRS2	Puddle in tornup roadway
16	2016-04-24 08.41.25.jpg	Photograph	4/24/16	Same location, facing N toward Division	edge of GRS1/GRS2	Muddy street
17	2016-04-24 08.41.37.jpg	Photograph	4/24/16	Same vicinity on Division or Porter	edge of GRS1/GRS2	Dirt/rock in gutters
18	2016-05-03 08.09.44.jpg	Photograph	5/3/16	Benachi just S of Balboa	GRS1	Badly silted storm drain
19	2016-05-03 08.09.48.jpg	Photograph	5/3/16	Benachi just S of Balboa	GRS1	Badly silted storm drain
20	2016-05-03 08.17.58.jpg	Photograph	5/3/16	Querens	GRS2	Silted double storm drain



#	File Name	Medium	Date Taken	Location	Phase	Description
21	2016-05-03 08.19.41.jpg	Photograph	5/3/16	Magnolia, by school zone Gorenflow, 812 address, near Bradford	GRN1	Torn up street with standing water, impacting trash pickup
22	2016-05-03 08.20.20.jpg	Photograph	5/3/16	Bradford facing W toward Reynoir St	GRN1	Standing water, muddy street
23	2016-05-05 07.19.58.jpg	Photograph	5/5/16	On Division facing East toward Porter, by Desportes	GRS1	Dusty road with school bus
24	2016-05-05 07.20.13.jpg	Photograph	5/5/16	On Division facing East toward Porter, by Desportes	GRS1	Dusty road, early in morning
25	2016-05-05 07.21.06.jpg	Photograph	5/5/16	Porter and Division	GRS1	Dusty, tornup road
26	2016-05-05 07.21.18.jpg	Photograph	5/5/16	Porter and Division, Walking E on Division, Porter behind EE and Querens next st	GRS1	Tornup road
27	2016-05-05 07.22.32.jpg	Photograph	5/5/16	Querens and Division, facing West, Keegan bayou to the left	GRS1, border w/ GRS2	Drain with some silt
28	2016-05-05 07.22.48.jpg	Photograph	5/5/16	Querens and Division	GRS1, border w/ GRS2	Silted storm drain, no controls
29	2016-05-05 07.23.01.jpg	Photograph	5/5/16	Querens, Bridge over Keegan Bayou	GRS1, border w/ GRS2	Washout to the Bayou
30	2016-05-05 07.23.34.jpg	Photograph	5/5/16	Querens headed South	GRS2	Construction, rock pile, multiple silted drains
31	2016-05-05 07.23.51.jpg	Photograph	5/5/16	Querens headed South	GRS2	Close-up of drain and rock pile from previous

#	File Name	Medium	Date Taken	Location	Phase	Description
32	2016-05-05 07.23.54.jpg	Photograph	5/5/16	Querens headed South	GRS2	Close-up of drain and rock pile from previous
33	2016-06-02 10.36.57.jpg	Photograph	6/2/16	Lee Street is behind photographer. Suarez facing E.	GRN4/GRN5 border	Bayou Auguste with large concrete tubes and dusty street
34	2016-06-02 10.38.56.jpg	Photograph	6/2/16	Bridge on Back Bay over Bayou Auguste, adjacent to Suarez	GRN4/GRN5 border	Bayou Auguste with silt fence.
35	2016-06-02 10.44.49.jpg	Photograph	6/2/16	Bradford visible, Braun off picture to right w/ Braun St Bridge over Bayou August	GRN3	Big pile of debris/dirt right by the bayou.
36	2016-06-05 06.49.45.jpg	Photograph	6/5/16	Porter over Keegan Bayou facing S	GRS2	Pavement with standing water
37	2016-06-05 06.50.27.jpg	Photograph	6/5/16	Porter over Keegan Bayou facing S	GRS2	Closeup of standing water (i.e., clogged drains)
38	2016-06-18 09.41.01.jpg	Photograph	6/18/16	Division and Benachi moving East	GRS1	Multiple piles by bayou, no controls
39	2016-06-18 09.41.57.jpg	Photograph	6/18/16	Benachi and Division	GRS1	Wattle over drain by Keegan Bayou
40	2016-06-18 09.42.04.jpg	Photograph	6/18/16	Benachi and Division	GRS1	Silted drain
41	2016-06-18 09.47.46.jpg	Photograph	6/18/16	Division and Hopkins	GRS3	Dirty street, silt by drain
42	2016-06-18 09.47.57.jpg	Photograph	6/18/16	Division and Hopkins	GRS3	Same drain facing different direction. Some fencing by giant hole.



#	File Name	Medium	Date Taken	Location	Phase	Description
43	2016-06-18 09.48.20.jpg	Photograph	6/18/16	Division and Hopkins by interstate offramp	GRS3	Partially covered drain
44	2016-06-18 09.49.03.jpg	Photograph	6/18/16	Division under interstate	GRS3	Drain with wattle
45	2016-06-18 09.50.26.jpg	Photograph	6/18/16	Division heading East near Bohn	GRS3	Drain with wattle where silt has pushed under the wattle
46	2016-06-18 09.50.28.jpg	Photograph	6/18/16	Division heading East near Bohn	GRS3	Close up of drain with wattle where silt has pushed under the wattle
47	2016-06-18 09.51.48.jpg	Photograph	6/18/16	Division St at Lee's Market just passed interstate, in between Bohn and Cruces	GRS3	Fully silted drain
48	2016-06-18 09.52.09.jpg	Photograph	6/18/16	Corner of Caillavet	GRS3	Broken water access
49	2016-06-18 09.52.42.jpg	Photograph	6/18/16	Division and Caillavet, SW corner	GRS3	Fully silted drain
50	2016-06-18 09.52.52.jpg	Photograph	6/18/16	Division and Caillavet, NW corner	GRS3	Ineffective wattle
51	2016-06-18 09.52.59.jpg	Photograph	6/18/16	Division and Caillavet, NW corner	GRS3	Ineffective wattle
52	2016-06-18 09.53.46.jpg	Photograph	6/18/16	on Division past Caillavet	GRS3	Silted drain
53	2016-06-18 09.54.25.jpg	Photograph	6/18/16	Division by Seashore Mission, Anglada St	GRS3	Muddy street, no control on storm drain
54	2016-06-18 09.54.34.jpg	Photograph	6/18/16	Division by Seashore Mission, Anglada St	GRS3	Closeup of drain from previous photo
55	2016-06-18 09.54.46.jpg	Photograph	6/18/16	Division by Seashore Mission, Anglada St	GRS3	Puddling near storm drain with no control

#	File Name	Medium	Date Taken	Location	Phase	Description
56	2016-06-18 09.54.55.jpg	Photograph	6/18/16	Division by Seashore Mission, Anglada St	GRS3	Closeup of drain from previous photo
57	2016-06-18 09.55.31.jpg	Photograph	6/18/16	Division and next street down from Anglada St, one of Seashore Mission, Fayard St	GRS3	Silted drain with vegetation growing in wattle
58	2016-06-18 09.55.38.jpg	Photograph	6/18/16	Division and Fayard, by Kim Lee's Vietnamese	GRS3	Storm drain with no controls
59	2016-06-18 09.55.55.jpg	Photograph	6/18/16	Division St by Kim Lee's, just W of Fayard	GRS3	Close up of drain around the corner
60	2016-06-18 09.56.39.jpg	Photograph	6/18/16	Division St	GRS3	Debris in gutter
61	2016-06-18 09.56.56.jpg	Photograph	6/18/16	Cruces right off Division by Our Lady of Sorrows	GRS3	Silted storm drain, opposite road from previous pic
62	2016-06-18 09.57.25.jpg	Photograph	6/18/16	Division St in front of Our Lady of Sorrows	GRS3	Torn up street with puddles
63	2016-06-18 09.57.40.jpg	Photograph	6/18/16	Division at Magnolia, Our Lady of Sorrows	GRS3	Storm drain, puddled water, no controls
64	2016-06-18 09.57.53.jpg	Photograph	6/18/16	Magnolia from Division, looking North	GRS3	Uncontrolled storm drains, with silt
65	2016-06-18 09.58.23.jpg	Photograph	6/18/16	Division St	GRS3	Uncontrolled debris
66	2016-06-18 09.58.42.jpg	Photograph	6/18/16	Haise St and Division, by nail/hair salon	GRS3	Damaged storm drain
67	2016-06-18 09.58.57.jpg	Photograph	6/18/16	Haise St by Division	GRS3	Silted drain on side of nail/hair salon
68	2016-06-18 09.59.30.jpg	Photograph	6/18/16	Division St by Haise St	GRS3	Uncontrolled drain in front of nail/hair salon



#	File Name	Medium	Date Taken	Location	Phase	Description
69	2016-06-18 10.00.10.jpg	Photograph	6/18/16	Division St by Haise St, approx	GRS3	Silted/uncontrolled drain
70	2016-06-18 10.00.49.jpg	Photograph	6/18/16	Division just past Lamuse	GRS3	Appears to be fully obstructed and covered drain
71	2016-06-18 10.01.04.jpg	Photograph	6/18/16	Division looking East, same general area	GRS3, almost into GRS4	Uncontrolled drain
72	2016-06-18 10.01.47.jpg	Photograph	6/18/16	Division at Main St or Lamuse, probably Main b/c temp paving	GRS4	Uncontrolled drain
73	2016-06-18 10.02.09.jpg	Photograph	6/18/16	Division in between Main and Elmer	GRS4	Drain obstructed with chunks of concrete, siltation, uncontrolled
74	2016-06-19 08.26.24.jpg	Photograph	6/19/16	Porter, N of Division, N of Pk Ct N	GRS1	Badly obstructed drain, sediment and trash
75	2016-06-19 08.26.49.jpg	Photograph	6/19/16	Porter, N of Division, N of Pk Ct N	GRS1	Dirt road, silt, no controls on drain
76	2016-06-19 08.26.53.jpg	Photograph	6/19/16	Porter, N of Division, N of Pk Ct N	GRS1	Appears to be fully obstructed and covered drain
77	2016-06-19 08.26.56.jpg	Photograph	6/19/16	Porter at DeSoto, facing S	GRS1	Puddling, clogged drain
78	2016-06-19 08.27.00.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Uncontrolled drain, silt
79	2016-06-19 08.27.02.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Same as previous but drain on opposite side of street
80	2016-06-19 08.27.18-1.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Closeup of drain from previous pic
81	2016-06-19 08.27.18.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Closeup of drain from previous pic

#	File Name	Medium	Date Taken	Location	Phase	Description
82	2016-06-19 08.27.22.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Drain on opposite side of street
83	2016-06-19 08.28.38.jpg	Photograph	6/19/16	Porter at DeSoto	GRS1	Wattle on drain, water/silt going around it
84	2016-06-19 08.29.01.jpg	Photograph	6/19/16	Park Ct N turn by Circle Park	GRS1	Drain with wattle
85	2016-06-19 08.29.03.jpg	Photograph	6/19/16	Park Ct N turn by Circle Park	GRS1	Drain with wattle
86	2016-06-19 08.35.43.jpg	Photograph	6/19/16	Park Ct N turn by Circle Park, approx	GRS1	Ineffective wattle
87	2016-06-24 13.44.36.jpg	Photograph	6/24/16	Standing on Braun, Bayou Auguste	GRN3	Dirt washout to bayou
88	2016-06-24 13.44.39.jpg	Photograph	6/24/16	Standing on Braun, Bayou Auguste	GRN3	Same location as previous, different angle
89	2016-06-24 13.44.44.jpg	Photograph	6/24/16	Standing on Braun, Bayou Auguste	GRN3	Dirt pile in bayou
90	2016-06-24 13.45.07.jpg	Photograph	6/24/16	Standing on Braun, Bayou Auguste	GRN3	Wide angle of dirt flowing into bayou
91	2016-07-03 07.13.01.jpg	Photograph	7/3/16	Iroquois	GRS2	Water standing on top of drain
92	2016-07-03 07.13.13.jpg	Photograph	7/3/16	Iroquois near railroad track	GRS2	Water standing on top of drain
93	2016-07-03 07.13.45.jpg	Photograph	7/3/16	Iroquois at Esposito	GRS2	Obstructed drain, no controls
94	2016-07-03 07.14.53.jpg	Photograph	7/3/16	Iroquois at Esposito, looking E to Esposito	GRS2	Tornup asphalt, no controls
95	2016-07-03 07.14.56.jpg	Photograph	7/3/16	Iroquois at Esposito	GRS2	Street sign for location purposes



#	File Name	Medium	Date Taken	Location	Phase	Description
96	2016-07-03 07.15.01.jpg	Photograph	7/3/16	Iroquois at Esposito	GRS2	Tornup asphalt, no controls
97	2016-08-04 17.17.33	Photograph	8/4/16	Iroquois at Keegan Bayou / Keegan WWTP, N of Division	GRN1, border GRN2	Construction piles by Keegan Bayou/wastewater treatment plant, raindrops visible on car
98	2016-08-04 17.17.36.jpg	Photograph	8/4/16	Iroquois at Keegan Bayou / Keegan WWTP, N of Division	GRN1, border GRN2	Uncontrolled construction
99	2016-08-04 17.18.13.jpg	Photograph	8/4/16	Keegan Bayou by the WWTP, standing on the bridge	GRN1, border GRN2	Muddy bayou water
100	2016-08-13 08.33.18.jpg	Photograph	8/11/16	Porter just S of Keegan Bayou	Border GRS1/GRS2	Wattle has been lifted by water or person
101	2016-08-13 08.34.11.jpg	Photograph	8/13/16	Keegan Bayou from Forrest St bridge	GRS2, border GRS1	Muddy water
102	2016-08-13 08.34.13.jpg	Photograph	8/13/16	Keegan Bayou from Forrest St bridge	GRS2, border GRS1	Muddy water
103	2016-08-13 08.34.17.jpg	Photograph	8/13/16	Division and Porter	GRS1/GRS2	Standing water, silt
104	2016-08-13 08.34.24.jpg	Photograph	8/13/16	Division and Porter	GRS1/GRS2	Closeup of standing water
105	2016-09-09 12.16.43.jpg	Photograph	9/9/16	Lee St and Suarez, N side of Bayou Auguste	GRN4	Huge pile, staging area, uncontrolled right by bayou
106	2016-09-09 12.17.21.jpg	Photograph	9/9/16	Lee St and Suarez, N side of Bayou Auguste	GRN4	Same, different angle
107	2016-09-09 12.17.47.jpg	Photograph	9/9/16	Lee St and Suarez, N side of Bayou Auguste	GRN4	Panoramic with Lee St bridge

#	File Name	Medium	Date Taken	Location	Phase	Description
108	2016-09-09 12.48.19.jpg	Photograph	9/9/16	Lee St, N of Division St	GRN5	Water going down drain
109	2016-09-21 16.24.43.jpg	Photograph	9/21/16	Division St at Back Bay Mission	GRS1	Dusty road
110	2016-09-21 16.26.15.jpg	Photograph	9/21/16	Division St at Back Bay Mission	GRS1	Dusty sign
111	2016-09-21 16.26.22.jpg	Photograph	9/21/16	Division St at Back Bay Mission	GRS1	Dusty road
112	2016-10-05 07.40.30.jpg	Photograph	10/5/16	Forrest at Keegan Bayou	GRS1/GRS2	Construction work
113	2016-10-07 18.52.40.jpg	Photograph	10/7/16	Judge Sekul and Forrest	GRS2	Dust at night
114	2016-10-07 18.52.43.jpg	Photograph	10/7/16	Judge Sekul and Forrest		Dust at night
115	2016-10-08 13.34.46.jpg	Photograph	10/8/16	Forrest headed S to Judge Sekul	GRS2	Dusty road, construction
116	2016-10-10 17.54.27.jpg	Photograph	10/10/16	Division and Forrest	GRS1	Dusty road
117	2016-10-22 09.23.27.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck turning around
118	2016-10-22 09.23.55.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck having sprayed
119	2016-10-22 11.06.20.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck
120	2016-10-22 11.06.40.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck
121	2016-10-22 11.36.57.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck



#	File Name	Medium	Date Taken	Location	Phase	Description
122	2016-10-22 11.37.09.jpg	Photograph	10/22/16	Forrest at Judge Sekul	GRS2 just outside of construction zone	Water truck
123	2016-10-23 13.54.53.jpg	Photograph	10/23/16	Forrest Ave near Keesler	GRS1	Dusty road
124	2016-10-29 08.21.02.jpg	Photograph	10/29/16	Keegan Bayou at Forrest	GRS2	Clogged drain, no silt fencing around bayou, draining to bayou
125	2016-10-29 08.21.06.jpg	Photograph	10/29/16	Keegan Bayou at Forrest	GRS2	Clogged drain, no silt fencing around bayou, draining to bayou
126	2016-10-29 08.21.10.jpg	Photograph	10/29/16	Keegan Bayou at Forrest	GRS2	Clogged drain, no silt fencing around bayou, draining to bayou
127	2016-11-02 12.10.55.jpg	Photograph	11/2/16	Forrest by Keesler	GRS1	Equipment, road closure
128	2016-11-02 12.11.11.jpg	Photograph	11/2/16	Forrest by Keesler	GRS1	Dirt road
129	2016-11-03 09.50.31.jpg	Photograph	11/3/16	Division across from Henry Beck Pk	GRS4	Dust-covered car
130	2016-11-09 14.19.16.jpg	Photograph	11/9/16	Division at Caillavet	GRS3	Dusty road
131	2016-11-09 14.19.19.jpg	Photograph	11/9/16	Division at Caillavet	GRS3	Dusty road
132	2016-11-12 10.24.49.jpg	Photograph	11/12/16	Querens bridge over Keegan Bayou	GRS1/GRS2	Leaking pipe
133	2016-11-12 11.28.26.jpg	Photograph	11/12/16	Benachi just S of Division	GRS1/GRS2	Construction equipment
134	2016-12-02 16.30.13.jpg	Photograph	12/2/16	Porter heading toward small park	GRS1	Dust
135	2016-12-02 16.30.17.jpg	Photograph	12/2/16	Porter heading toward small park	GRS1	Dust

#	File Name	Medium	Date Taken	Location	Phase	Description
136	2016-12-02 16.30.21.jpg	Photograph	12/2/16	Porter heading toward small park	GRS1	Dust
137	2016-12-02 16.32.08.jpg	Photograph	12/2/16	Forrest	GRS1	Dusty road, uncontrolled drain
138	2016-12-04 15.48.58.jpg	Photograph	12/4/16	Forrest	GRS1	Dirt spread over roadway after rain
139	after_calling_DMR.jpg	Photograph	6/2/16	Back Bay and Bayou Auguste	GRN4/GRN5	Silt fence added with big pile in bayou after citizen complaint
140	IMG_4711.JPG	Photograph	2/9/17	Bradford just west of Braun st. bridge. North side of Bayou Auguste tide is in.	GRN3	Erosion at bayou
141	IMG_4712.MOV	Video	2/9/17	Benachi and Division. Keegan Bayou from Benachi Bridge on the east side	GRS1/GRS2	Muddy water / silt deposition at Keegan Bayou
142	IMG_4713.JPG	Photograph	2/9/17	Keegan Bayou. Benachi bridge on west side	GRS1/GRS2	Silt deposition in bayou
143	IMG_4714.JPG	Photograph	2/9/17	Keegan Bayou just north of Division st. bridge	GRS1	Silted outfall into bayou
144	IMG_4715.JPG	Photograph	2/9/17	Keegan Bayou just north of Division bridge	GRS1	Silted bayou
145	IMG_4716.JPG	Photograph	2/9/17	Keegan Bayou just north of Division bridge	GRS1	Silted bayou
146	IMG_4772.JPG	Photograph	2/14/17	Keegan Bayou facing East from Forrest Ave. bridge.	GRS1/GRS2	Muddy waters
147	IMG_4773.JPG	Photograph	2/14/17	Keegan Bayou from Porter street bridge	GRS1/GRS2	Sediment deposition



#	File Name	Medium	Date Taken	Location	Phase	Description
148	IMG_4774.JPG	Photograph	2/14/17	Keegan Bayou at Porter facing Southwest	GRS1/GRS2	Sediment running out of outfall into bayou
149	IMG_4775.JPG	Photograph	2/14/17	Keegan Bayou from Porter Street Bridge	GRS1/GRS2	Muddy waters
150	IMG_4776.JPG	Photograph	2/14/17	Keegan Bayou facing east from Porter Ave. bridge	GRS1/GRS2	Muddy waters
151	IMG_4777.JPG	Photograph	2/14/17	Keegan Bayou at Porter Ave. Bridge	GRS1/GRS2	Muddy waters
152	IMG_4778.JPG	Photograph	2/14/17	Keegan Bayou facing east from Porter Ave. bridge	GRS1/GRS2	Muddy waters
153	IMG_4779.JPG	Photograph	2/14/17	East side of Porter Ave. between Keegan Bayou and Division St.	GRS1	Silted drain
154	IMG_4780.JPG	Photograph	2/14/17	Northeast corner of Division and Porter	GRS1	Silted drain
155	IMG_4781.JPG	Photograph	2/14/17	Northeast corner of Division and Porter	GRS1	Silted drain
156	IMG_4782.JPG	Photograph	2/14/17	Northwest corner of Division and Porter	GRS1	Silted drain
157	IMG_4783.JPG	Photograph	2/14/17	Northwest corner of Porter and Division on Porter facing North	GRS1	Thick dirt on road
158	IMG_4784.JPG	Photograph	2/14/17	Cherokee St. and Porter Ave.	GRS1	Sand bags over drain
159	IMG_4785.JPG	Photograph	2/14/17	Southwest corner Cherokee and Porter	GRS1	Uncontrolled drain

#	File Name	Medium	Date Taken	Location	Phase	Description
160	IMG_4786.JPG	Photograph	2/14/17	Northeast corner on Cherokee and Porter(facing west on Cherokee)	GRS1	Uncontrolled drain
161	IMG_4787.JPG	Photograph	2/14/17	Facing North up Porter Ave. on the corner of Cherokee and Porter	GRS1	Thick dirt on road
162	IMG_4788.JPG	Photograph	2/14/17	Northeast corner of Porter and Frank P Corso	GRS1	Sand bags over drain
163	IMG_4789.JPG	Photograph	2/14/17	NE corner of Porter and Frank P Corso	GRS1	Same as 4788, different view. Sand bags over drain, wattle pushed aside
164	IMG_4790.JPG	Photograph	2/14/17	Frank P. Corso facing east	GRS1	Dirt road
165	IMG_4791.JPG	Photograph	2/14/17	Porter Ave	GRS1	Sand bags pushed aside by sediment
166	IMG_4792.JPG	Photograph	2/14/17	Northwest corner Frank P Corso and Porter	GRS1	Uncontrolled drain
167	IMG_4793.JPG	Photograph	2/14/17	Frank P Corso and Porter	GRS1	Reference street sign
168	IMG_4794.JPG	Photograph	2/14/17	Porter at Frank P Corso facing north	GRS1	Dirt road
169	IMG_4795.JPG	Photograph	2/14/17	Porter facing South	GRS1	Dirt road
170	IMG_4796.JPG	Photograph	2/14/17	Columbus looking east from Porter	GRS1	Dirt road, appears to be buried storm drain
171	IMG_4797.JPG	Photograph	2/14/17	Porter and Columbus facing South	GRS1	Dirt road, appears to be buried storm drain



#	File Name	Medium	Date Taken	Location	Phase	Description
172	IMG_4798.JPG	Photograph	2/14/17	Porter and Columbus	GRS1	Reference street sign
173	IMG_4799.JPG	Photograph	2/14/17	Columbus and Porter facing north	GRS1	Pile of dirt, no controls
174	IMG_4800.JPG	Photograph	2/14/17	Columbus	GRS1	Dirt road
175	IMG_4801.JPG	Photograph	2/14/17	Porter and Columbus facing South	GRS1	Obstructed storm drain
176	IMG_4802.JPG	Photograph	2/14/17	Porter just south of Columbus, west side of street	GRS1	Obstructed storm drain
177	IMG_4804.JPG	Photograph	2/14/17	Southeast corner on Balboa Balboa and Porter	GRS1	Uncontrolled drain
178	IMG_4805.JPG	Photograph	2/14/17	Northeast corner on Balboa Balboa and Porter	GRS1	Uncontrolled drain
179	IMG_4806.JPG	Photograph	2/14/17	Balboa facing east	GRS1	Dirt road
180	IMG_4808.JPG	Photograph	2/14/17	Porter and Park Ct. S. looking west	GRS1	Dirt road with construction equipment and big pile of uncontrolled material in the background
181	IMG_4809.JPG	Photograph	2/14/17	Porter between Park Ct. S and Park Court N	GRS1	Dirt road
182	IMG_4810.JPG	Photograph	2/14/17	Porter between Park Ct. S and Park Ct. N looking southwest	GRS1	Dirt road

#	File Name	Medium	Date Taken	Location	Phase	Description
183	IMG_4811.JPG	Photograph	2/14/17	Porter between Park Ct. S and Park Ct. N looking southwest	GRS1	Water truck spraying
184	IMG_4812.JPG	Photograph	2/14/17	East side of Porter between Park Ct. S and Park Ct. N	GRS1	Cone in broken storm drain
185	IMG_4813.JPG	Photograph	2/14/17	East side of Porter between Park Ct. S and Park Ct. N	GRS1	Uncontrolled drain
186	IMG_4814.JPG	Photograph	2/14/17	East side of Porter between Park Ct. S and Park Ct. N	GRS1	Hole at side of road
187	IMG_4815.JPG	Photograph	2/14/17	Porter north of Park Court N corner east side of street	GRS1	Obstructed storm drain
188	IMG_4816.JPG	Photograph	2/14/17	Porter corner of Park Ct. North looking southwest	GRS1	Fully obstructed drain
189	IMG_4817.JPG	Photograph	2/14/17	Porter at Park Ct	GRS1	Reference street sign
190	IMG_4818.JPG	Photograph	2/14/17	Park Court N looking east	GRS1	Dirt road
191	IMG_4819.JPG	Photograph	2/14/17	Park Court N looking south	GRS1	Wash out
192	IMG_4820.MOV	Video	2/14/17	Park Court N moving to Park Court S.	GRS1	Pumping large amounts of water into park and down street causing a river of sediment. Additional video of pumping at same location taken in afternoon



#	File Name	Medium	Date Taken	Location	Phase	Description
193	IMG_4821.JPG	Photograph	2/14/17	On Porter near Desoto	GRS1	Uncontrolled drain
194	IMG_4822.MOV	Video	2/14/17	East side of Porter near Desoto	GRS1	Hose runs down Desoto
195	IMG_4823.JPG	Photograph	2/14/17	Porter near Desoto	GRS1	Silted drain
196	IMG_4824.JPG	Photograph	2/14/17	Desoto east of Porter	GRS1	Vegetation growing in storm drain
197	IMG_4825.JPG	Photograph	2/14/17	Desoto	GRS1	Uncontrolled drain
198	IMG_4826.JPG	Photograph	2/14/17	Porter at Desoto	GRS1	Reference street sign
199	IMG_4827.JPG	Photograph	2/14/17	Porter North of Porter	GRS1	Vegetation growing in storm drain
200	IMG_4828.JPG	Photograph	2/14/17	Benachi and George Quint Ct east side of street	GRS1	Uncontrolled drain
201	IMG_4829.JPG	Photograph	2/14/17	Benachi at George Quint Ct	GRS1	Reference street sign
202	IMG_4830.JPG	Photograph	2/14/17	Benachi just south of George Quint Ct.	GRS1	Uncontrolled drain
203	IMG_4831.JPG	Photograph	2/14/17	Benachi	GRS1	Appears to be buried storm drain
204	IMG_4832.JPG	Photograph	2/14/17	Beanchi near Division	GRS1	Storm drain with sediment and fabric
205	IMG_4833.JPG	Photograph	2/14/17	Benachi closer to Division Keegan Bayou in background	GRS1	Uncontrolled drain

#	File Name	Medium	Date Taken	Location	Phase	Description
206	IMG_4834.JPG	Photograph	2/14/17	Benachi facing east corner of Division Keegan Bayou in back. School bus stop	GRS1	Uncontrolled drain
207	IMG_4835.JPG	Photograph	2/14/17	Keegan Bayou Benachi bridge west side	GRS1/GRS2	Silt/mud in water
208	IMG_4836.JPG	Photograph	2/14/17	Keegan Bayou Benachi bridge west side	GRS1/GRS2	Muddy waters
209	IMG_4837.JPG	Photograph	2/14/17	Keegan Bayou Benachi bridge west side	GRS1/GRS2	Muddy waters
210	IMG_4838.MOV	Video	2/14/17	Keegan Bayou east side of Benachi Bridge	GRS1/GRS2	Chocolate milk water and silk coming from outfall into bayou
211	IMG_4839.MOV	Video	2/14/17	Graham looking south	GRS2	Dirt roads, heavy equipment
212	IMG_4841.MOV	Video	2/14/17	Benachi	GRS2	Driving down dirt road, storm drains appear buried/obstructed
213	IMG_4842.MOV	Video	2/14/17	Graham walking north	GRS2	Overview of the state of the roads
214	IMG_4843.JPG	Photograph	2/14/17	Thelma at Graham	GRS2	Reference street sign
215	IMG_4845.MOV	Video	2/14/17	On Graham intersection Graham and Thelma	GRS2	Construction
216	IMG_4846.JPG	Photograph	2/14/17	Graham south of Thelma	GRS2	Large milky puddle
217	IMG_4847.JPG	Photograph	2/14/17	Graham south of Thelma east side of street	GRS2	Obstructed storm drain
218	IMG_4848.JPG	Photograph	2/14/17	Graham west side of street south of Thelma	GRS2	Uncontrolled drain
219	IMG_4849.JPG	Photograph	2/14/17	Graham east side of street	GRS2	Water running down edge of street



#	File Name	Medium	Date Taken	Location	Phase	Description
220	IMG_4850.MOV	Video	2/14/17	Graham	GRS2	Obstructed storm drain
221	IMG_4851.MOV	Video	2/14/17	Graham	GRS2	Sediment/water running into partially blocked storm drain; puddling and muddy streets
222	IMG_4852.MOV	Video	2/14/17	Graham	GRS2	Mud puddle
223	IMG_4853.JPG	Photograph	2/14/17	Benachi near railroad east side of street	GRS2	Partially caved in drain
224	IMG_4854.MOV	Video	2/14/17	Keegan Bayou southeast outfall, shows Keegan Bayou across Division	GRS1/GRS2	Outfall, turbid, muddy waters with silt
225	IMG_4855.MOV	Video	2/14/17	Iroquois St. moving south	GRS1 into GRS2	Overall construction conditions
226	IMG_4856.JPG	Photograph	2/14/17	Thelma corner of Seal and Thelma	GRS2	Appears to show debris near storm drain
227	IMG_4857.MOV	Video	2/14/17	Thelma and Seal	GRS2	Appears to show debris near storm drain
228	IMG_4858.JPG	Photograph	2/14/17	Santini south of Thelma	GRS3	Hole with standing water where storm drain used to be
229	IMG_4859.JPG	Photograph	2/14/17	Santini	GRS3	Broken storm drain
230	IMG_4860.JPG	Photograph	2/14/17	Santini	GRS3	Hole with standing water where storm drain used to be
231	IMG_4861.MOV	Video	2/14/17	Espositi walking toward Seal	Just outside GRS2	Overview of the state of the roads, pile of construction material, outfall
232	IMG_4862.JPG	Photograph	2/14/17	Iroquois near Division west side of street	GRS2	Partially obstructed drain
233	IMG_4863.JPG	Photograph	2/14/17	Northeast corner Iroquois and Division	GRS1	Silted drain

#	File Name	Medium	Date Taken	Location	Phase	Description
234	IMG_4864.MOV	Video	2/14/17	Keegan Bayou at Iroquois bridge	GRS1/GRN1	shows silt and is down stream from the Benachi silt cloud filmed earlier
235	IMG_4866.JPG	Photograph	2/14/17	Division and Seal.	GRS1/GRS3	The large puddle that is ALWAYS there and has been there for a long time (8 months or more).
236	IMG_4867.JPG	Photograph	2/14/17	Division and Hopkins	GRS3	Hose / pumping
237	IMG_4868.JPG	Photograph	2/14/17	Magnolia south of Division	GRS3	Uncontrolled drain
238	IMG_4869.JPG	Photograph	2/14/17	Magnolia south of Division	GRS	Appears to be buried storm drain
239	IMG_4870.JPG	Photograph	2/14/17	Magnolia south of Division	GRS	Appears to be buried storm drain
240	IMG_4871.JPG	Photograph	2/14/17	Division at Haise	GRS3/GRN1	Reference street sign
241	IMG_4872.JPG	Photograph	2/14/17	Looking W on Division at Haise	GRS3/GRN1	Uncontrolled drain
242	IMG_4873.JPG	Photograph	2/14/17	Division and Haise	GRS3/GRN1	Uncontrolled drain on W side of Haise
243	IMG_4874.MOV	Video	2/14/17	Bradford driving west past Magnolia turning north onto Croesus St.	GRN1	Overall condition of roads/drains
244	IMG_4875.MOV	Video	2/14/17	Croesus St	GRN1	Partially obstructed drain
245	IMG_4876.JPG	Photograph	2/14/17	On Croesus near Elder	GRN1	Road construction



#	File Name	Medium	Date Taken	Location	Phase	Description
246	IMG_4877.MOV	Video	2/14/17	West on Elder St passing Miguels Park (Parker St) and Gorenflow School, Lamuese St, crossing Main St onto Walker. Moore Community House Early headstart corner of Walker and Dacey St.	GRN2/GRN1, driving into GRN3	Overall condition of roads/drains
247	IMG_4878.JPG	Photograph	2/14/17	On Walker St. by Dacey St.	GRN3	Uncontrolled drain
248	IMG_4879.JPG	Photograph	2/14/17	Walker St. between Dacey and Davis	GRN3	Uncontrolled drain
249	IMG_4880.JPG	Photograph	2/14/17	Walker St. between Dacey and Davis	GRN3	Uncontrolled drain
250	IMG_4881.JPG	Photograph	2/14/17	Walker St. just east of Dacey St.	GRN3	Uncontrolled drain
251	IMG_4882.JPG	Photograph	2/14/17	Street sign just north of Bayou Auguste	GRN3	Reference street sign
252	IMG_4883.JPG	Photograph	2/14/17	Braun just north of Splendor St.	GRN3	Uncontrolled drain
253	IMG_4884.JPG	Photograph	2/14/17	Nichols just south of Bradford	GRN5	Mostly obstructed drain
254	IMG_4885.JPG	Photograph	2/14/17	Nichols	GRN5	Partially obstructed drain
255	IMG_4886.JPG	Photograph	2/14/17	Nichols just north of Roy	GRN5	Uncontrolled drain
256	IMG_4887.JPG	Photograph	2/14/17	Roy St	GRN5	Reference street sign
257	IMG_4888.JPG	Photograph	2/14/17	Nichols just north of Roy	GRN5	Uncontrolled drain
258	IMG_4889.JPG	Photograph	2/14/17	Nichols south of Roy	GRN5	Uncontrolled drain
259	IMG_4890.JPG	Photograph	2/14/17	Nichols	GRN5	Uncontrolled and broken drain

#	File Name	Medium	Date Taken	Location	Phase	Description
260	IMG_4891.JPG	Photograph	2/14/17	Nichols	GRN5	Buried storm drain
261	IMG_4892.MOV	Video	2/14/17	Nichols and Division	GRN5	Water pump
262	IMG_4893.MOV	Video	2/14/17	Driving east on Division turning on Heidenheim Ave	GRN5	Overall condition of roads/drains; pumping water
263	IMG_4894.MOV	Video	2/14/17	Driving down Roy to Lee Lee to Redding to Bowen	GRN5	Overall condition of roads/drains
264	IMG_4906.MOV	Video	2/14/17	Corner of Park Court North and Porter moving to the corner of Park Court S.	GRS1	Ongoing pumping taken at 1 p.m.; silted water flowing into uncontrolled drain; significant volume/flow
265	IMG_4907.MOV	Video	2/14/17	Outfall at the end of Forrest Ave into the Back Bay	Outside of Construction zones	Silted water draining into Back Bay
266	IMG_4908.MOV	Video	2/14/17	Back Bay east of Forrest Ave outfall	Outside of Construction zones	Muddy waters
267	IMG_4909.MOV	Video	2/14/17	Back bay at Porter Ave outfall	Outside of Construction zones	Muddy waters
268	IMG_4910.MOV	Video	2/14/17	Back Bay Forrest Ave. outfall	Outside of Construction zones	Silted water draining into Back Bay after rainfall
269	IMG_4937.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, on the W side of Division St, N of Nichols Dr.	GRN5	Buried drain
270	IMG_4938.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, on the W side of Division St, N of Nichols Dr.	GRN5	Drain after digging



#	File Name	Medium	Date Taken	Location	Phase	Description
271	IMG_4939.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, on the W side of Division St, N of Nichols Dr.	GRN5	Drain after digging
272	IMG_4940.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, on the W side of Division St, N of Nichols Dr.	GRN5	Sign of drain and fabric after digging down where drain was fully buried.
273	IMG_4941.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, on the W side of Division St, N of Nichols Dr.	GRN5	Sign of drain and fabric after digging down where drain was fully buried.
274	IMG_4943.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_05, at the East end/ North side of Division St.	GRN5	Ineffective sand bags
275	IMG_4953.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_07, at the SE side of Nichols, S of Roy St.	GRN5	Fully obstructed. Dug down in next few pictures. Ineffective measures underneath.
276	IMG_4954.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_07, at the SE side of Nichols, S of Roy St.	GRN5	After digging at storm drain, sign of ineffective measures in place.
277	IMG_4955.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_07, at the SE side of Nichols, S of Roy St.	GRN5	After digging at storm drain, sign of ineffective measures in place.

#	File Name	Medium	Date Taken	Location	Phase	Description
278	IMG_4956.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_07, at the SE side of Nichols, S of Roy St.	GRN5	After digging at storm drain, sign of ineffective measures in place.
279	IMG_4957.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_07, at the SE side of Nichols, S of Roy St.	GRN5	After digging at storm drain, sign of ineffective measures in place.
280	IMG_4992.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_10, at the NE or SW corner of the intersection of Keller Ave. and Roy St.	GRN5	Wattle in place, drain open
281	IMG_4994.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_10, at the NE or SW corner of the intersection of Keller Ave. and Roy St.	GRN5	Wattle in place, drain open, but signs wattle beginning to deteriorate
282	IMG_5029.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_16, at the SW corner of Suarez St. and Keller Ave.	GRN5	Partially wattled, ineffective
283	IMG_5030.JPG	Photograph	2/15/17	Drain located on GRN5 Map #SW_16, at the SE corner of Suarez St. and Keller Ave. intersection	GRN5	Fully wattled but signs of rock pushing around it/pushing it out of place and causing obstruction



#	File Name	Medium	Date Taken	Location	Phase	Description
284	IMG_5035.MOV	Video	2/17/17	Braun just north of Bayou Auguste west side of Braun	GRN3	Water flowing into obstructed/uncontrolled drain after rainfall
285	IMG_5036.MOV	Video	2/17/17	Water being pumped from GRS4 on Nichols south of Division to GRN5 drain on south side of Division.	GRS4/GRN5	Silted water being pumped into uncontrolled drain after rainfall
286	IMG_5037.MOV	Video	2/17/17	Keegan Bayou at Benachi bridge (Benachi/division) east side of bridge, south side of Bayou	GRS1/GRS2	Silted water flowing into bayou during rainfall
287	IMG_5038.MOV	Video	2/17/17	Forrest and Bayview. Forrest outfall into Back Bay	Outside of Construction zones	Silted water draining into Back Bay after rainfall
288	IMG_5039.MOV	Video	2/17/17	Forrest and Bayview. Forrest outfall into Back Bay	Outside of Construction zones	Silted water draining into Back Bay after rainfall
289	IMG_5040.MOV	Video	2/17/17	Porter and Bayview Porter outfall into Back Bay	Outside of Construction zones	Muddy waters in Back Bay after rainfall

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**STORMWATER POLLUTION PREVENTION PLAN  
CITY OF BILOXI INFRASTRUCTURE REPAIR PROGRAM  
BILOXI, MISSISSIPPI  
(Revised 03/15/11)**

**Project Phase: GRS 1 & 2**

**Date: February 28, 2013**

*Prepared for:*

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P.O. Box 429  
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*Prepared by:*

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## **EXECUTIVE SUMMARY**

Brown, Mitchell, & Alexander, Inc. (BMA) has prepared this Stormwater Pollution Prevention Plan (SWPPP) for the City of Biloxi Engineering & Public Works Department, Biloxi, Harrison County, Mississippi. The SWPPP has been prepared in accordance with the provisions of the Clean Water Act, the National Pollution Discharge Elimination System, and the requirements of the Mississippi Department of Environmental Quality. The SWPPP shall meet the requirements of the current Large Construction Stormwater General Permit (Permit No. MSR10) dated January 11, 2011. This plan is being submitted to the Mississippi Department of Environmental Quality on behalf of the City of Biloxi Engineering & Public Works Department.

This report is divided into sections and provides the user with information related to the measures to be taken to control the stormwater discharges both during and after construction of the project.

A summary of the information presented in each section is as follows:

**Section 1.0** outlines the scope of the project and the purpose of the SWPPP.

**Section 2.0** provides detailed information regarding the construction activities and measures to be taken by the Owner and Contractor to insure proper management of the stormwater generated onsite.

**Section 3.0** outlines the stabilization practices and structural methods for controlling erosion and stormwater runoff.

**Section 4.0** outlines any post-construction stormwater measures to be utilized on this project.

**Section 5.0** outlines the inspection and maintenance procedures which will be implemented during construction.

**Section 6.0** outlines the material management practices and spill prevention measures for the project.

**Attachments** include a project area map and details of the various stormwater management and erosion control devices to be utilized during the project.

## **1.0 INTRODUCTION**

The City of Biloxi ("Owner") plans to replace water, sewer, drainage and street infrastructure systems damaged by Hurricane Katrina.

### **1.1 Site Location**

The site is located between LaSalle Street and Howard Avenue from north to south and between Seal Avenue and Forrest Avenue from east to west. The area is generally west and south of Keegan Bayou. Geographically, the site is located in Sections 26 and 29, Township 7S, Ranges 9W, in the City of Biloxi, Harrison County, Mississippi.

### **1.2 Site Description**

This site consists of mostly single family properties and some small businesses. Drainage is collected by drain inlets and discharged through the subsurface drainage system into Keegan Bayou and eventually discharges into Biloxi Back Bay. The total area disturbed inside the project boundary is approximately 32 acres.

## **2.0 IMPLEMENTATION SEQUENCE**

Major construction activities will begin when all permits have been obtained and the work is authorized. Major construction activities associated with the repairs of the infrastructure within the project area will include, but not necessarily be limited to: *removal of existing water, sewer, and drainage lines and associated pavement removal, installation of new water, sewer and drainage lines and associated paving operations, & excavation, filling and grading for the site.*

### **2.1 Sequence of Major Construction Activities**

Major construction activities will be scheduled and carried out in a manner consistent with routine construction practices. The following list provides a general schedule of the events that will occur during construction as well as the sequence in which the events are proposed:

- |   |  |
|---|--|
| 1. Install construction entrance and exit;  | 5. Replace damaged infrastructure;               |
| 2. Install erosion control structures in areas to be disturbed in accordance with the sequence of construction; | 6. Construct base courses;                       |
| 3. Clear and grub the site, if necessary;   | 7. Complete construction;                        |
| 4. Excavate to subgrade and stabilize;  | 8. Complete final grading;                       |
|   | 9. Plant grasses; and,                           |
|   | 10. Remove temporary erosion control structures. |

## **3.0 CONSTRUCTION EROSION AND SEDIMENT CONTROLS**



During construction, care will be taken to manage the stormwater. The Contractor, on behalf of the Owner, will implement appropriate erosion and sediment controls to retain the sediment onsite. The objective of the plan is to limit exposure of disturbed areas for the shortest time possible, disturb the smallest area possible, preserve vegetation where possible, slow rainfall runoff velocities to prevent erosive flow, and re-establish vegetation as quickly as possible following construction.

### **3.1 Vegetative Controls**

Site development will proceed in a planned sequence and every attempt will be made to preserve existing vegetation to reduce erosion. All disturbed sites will be managed and re-vegetated as soon as practicable after final grading. Where applicable, disturbed areas will be stabilized by temporary seeding, permanent seeding, and/or mulching. When a disturbed area will be left undisturbed or unattended for fourteen (14) days or more, appropriate temporary or permanent vegetative practices shall be implemented within seven (7) calendar days. . The use of heavy equipment in those areas to be re-vegetated will be kept to a minimum, as the majority of the construction work will be occurring in existing City roadways.

#### **Protection of Trees**

Construction fencing will be placed around trees to the drip line in or near disturbed areas until permanent seeding is established.

#### **Buffer Zones**

The minimum 150-foot buffer zone required as a part of T-4 A (page 14) of the Large Construction Stormwater General Permit has been deemed not feasible due to the linear nature of this project.

#### **Topsoil**

The stockpiling of topsoil to be used in areas designated to be re-vegetated, and the requirement(s) for specified depths in those same areas, in accordance with Section T-4 C (page 14) of the Large Construction Stormwater General Permit, has been deemed not feasible due to the linear nature of this project and the minimal amount of topsoil to be disturbed during construction.

#### **Permanent Seeding**

Permanent seeding will be established on those disturbed areas. This may include mulching and/or hydroseeding. Refer to the Seeding Chart attached for type of seed to be utilized

#### **Temporary Seeding**

Temporary seeding is proposed for soils that remain stockpiled for more than 14 calendar days. These areas will be seeded in accordance with the planting schedule, rate of application and planting preparation outlined in the MDEQ seeding chart. When a disturbed area will be left undisturbed or unattended for fourteen (14) days or more, appropriate temporary or permanent vegetative practices shall be implemented within seven (7) calendar days.

### **Erosion and Sediment Control Blankets**

Erosion and sediment control blankets will be placed in disturbed areas as required to preserve side slopes along drainage ditches until permanent vegetation is established.

### **3.2 Structural Controls**

In addition to the vegetative practices referenced above, certain structural erosion control measures shall be implemented as necessary. The measures include diverting flows from exposed soils and/or otherwise limiting runoff from exposed areas. Other structural methods will include silt fences, earth dikes, drainage swales, outlet protection, and equivalent sediment controls as necessary.

### **Construction Entrances/Exits**

Due to the linear nature of this project construction entrances/exits will be required only in the event the contractor cannot effectively control the daily transport of sediment onto the adjacent streets. The Contractor will be required to mitigate/prevent the migration of soil and debris from the site via methods acceptable to the City and/or their authorized representative. This may include manual removal, mechanized street sweepers, or other acceptable methods. During construction, if it is determined by the City or their authorized representative that the contractor is not effectively controlling the sediment on a daily basis, the contractor may be directed to install construction entrances/exits. In the event construction entrances/exits are determined to be necessary, they shall be installed at any location where construction traffic enters or exits the project and shall be relocated as necessary as the project progresses.

### **Silt Fencing and Sediment Barriers**

Silt fencing and a sediment barrier will be installed to intercept and retain sediment from disturbed areas during construction activities. Silt fencing will consist of synthetic fabric attached to supporting posts and shall be entrenched. Sediment barriers will be constructed of filter fabric, natural stone, concrete riprap or other acceptable materials. These structures will be installed downslope of disturbed areas or in minor swales or ditch lines that have been constructed for the sole purpose of facilitating stormwater drainage. Silt fencing and sediment barriers will not be installed in live streams or in areas where surface flow is anticipated to exceed one (1) cubic foot per second (CFS). These structures will be installed as necessary and will be maintained until other permanent erosion control methods can be installed. Structures will be cleaned out when half filled with silt.

### **Storm Drain Inlet Protection**

Sediment barriers (i.e., silt fencing, block and gravel, etc.) or excavated impoundment areas will be constructed around storm drain inlets located within the project boundaries.

### **Dewatering**

Dewatering discharge shall be controlled to prevent erosion and discharged in a manner not to cause flooding.

## **4.0 POST-CONSTRUCTION STORMWATER MANAGEMENT MEASURES**



Post-construction control measures shall include, but not necessarily be limited to, inlet boxes and subsurface drainage as well as vegetated swales and natural depressions.

#### **Inlet Boxes and Subsurface Drainage**

Drain inlets and subsurface drainage structures will be utilized as required throughout the project.

#### **Vegetated Swales and Natural Depressions**

Vegetated swales with maximum side slopes of 4:1 will be installed as necessary to provide positive drainage from culvert outfalls. Additional erosion and sediment controls may be deemed necessary if the controls in the SWPPP are found to be ineffective.

#### **Hydroseeding**

Hydroseeding shall be completed as per the Contract Specifications.

### **5.0 INSPECTION AND MAINTENANCE**

In order to ensure the effectiveness of the erosion and sediment control practices incorporated into this Plan, the Contractor will regularly inspect and maintain the stormwater control devices referenced above throughout the construction of the project.

#### **5.1 Inspection**

All sediment control measures will be inspected at least once each week (for a minimum of four (4) inspections per month), as often as is necessary to ensure that appropriate erosion and sediment controls have been properly constructed and maintained and to determine if additional or alternative control measures are required, and following any rain storm event measuring 6 inches or greater within a 24-hour period. It is strongly recommended that coverage recipients perform a "walk through" inspection of the construction site before anticipated storm events.

#### **5.2 Maintenance**

All measures will be maintained in good working order and repaired within twenty-four (24) hours of any reported problem. Silt barriers will be inspected for depth of sediment, tears, breaches, and general integrity on a weekly basis. Sediment buildup behind silt barriers will be removed when it has reached one-half (1/2) of the height of the barrier.

A maintenance inspection report will be made after each weekly inspection and will be filed and retained on the jobsite by the Contractor. These reports are to be submitted to the City of Biloxi on a monthly basis.

### **6.0 GOOD HOUSEKEEPING**

The following good housekeeping practices will be practiced at the site throughout the construction project:

- All onsite materials shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure;
- Products will be kept in their original containers with the original manufacturer's label;
- Manufacturer's recommendations for the proper use and disposal of materials will be followed; and,
- The site superintendent will inspect the site on a daily basis to ensure proper onsite use and disposal of all materials.
- The Contractor shall clearly indicate on a site map within the SWPPP a designated area for concrete truck washout. The location shall be approved by the City of Biloxi or their authorized representative prior to its usage. The washout area must be in a location that captures the residual concrete and prevents it from migrating to natural or manmade drainage ways and/or to surface waters. It is the responsibility of the Contractor to monitor this area and to ensure that all residual concrete is captured and handled appropriately and/or as directed by the City or their authorized representative. During final site cleanup, the Contractor shall remove from the project site all residual concrete produced by the washout operations.

#### **6.1 Waste Disposal**

All waste materials will be collected and stored in a covered metal dumpster provided by a licensed solid waste management company. All construction debris and trash will also be deposited in the dumpster. No construction waste will be burned or buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. All hazardous waste materials will be disposed of in the manner specified by the local and/or state regulation(s) or by the Material Safety Data Sheets (MSDS) provided with the particular waste material.

All sanitary waste will be collected from the portable units as required. Once the project is completed, all sanitary waste generated on the site will be removed and disposed of properly.

#### **6.2 Spill Prevention**

The following practices will be used to reduce the risks associated with any spills of materials during the construction phase of the project:

- All spills will be cleaned up immediately upon discovery;
- Spills of toxic or hazardous materials will be reported to the appropriate governmental agency; and,
- Materials and equipment necessary for spill cleanup will be kept onsite within the material storage area. Equipment and materials will include but not necessarily be limited to brooms, dust pans, mops, rags, safety equipment, gloves, goggles, absorbent material, sand, sawdust, and plastic and metal trash containers.



- All equipment repair and maintenance shall be done in an area designated on the stormwater management plan or off-site.

**ATTACHMENTS**

**CONSTRUCTION POLLUTION PREVENTION PLAN**

<b><u>Sheet No.</u></b>	<b><u>Description</u></b>
10	Vicinity Map
11-12	Temporary Silt Fence Detail (8½" x 11")
13	Temporary Silt Fence Inlet Protection Detail (8½" x 11")
14	Straw Wattle Inlet Protection (8½" x 11")
15	Construction Entrance Detail (8½" x 11")
16	Seeding Chart for the State of Mississippi





Produced by the United States Geological Survey  
Topography compiled 1952. Planimetry derived from imagery taken 1992. Public Land Survey System and survey control current as of 1954.  
Selected hydrologic data compilation from NGS Charts 75-100, 1967-1969. This information is not intended for navigational purposes.  
North American Datum of 1983 (NAD 83). Projection and 1000-meter grid (Universal Transverse Mercator, zone 16, 500,000 meter scale; Universal Coordinate System of 1983 (UTM zone)).  
North American Datum of 1977 (NAD 77) is shown by dashed contour lines. The values of the shift between NAD 83 and NAD 77 for 7.5-minute intersections are obtainable from the United States Geological Survey software.  
There may be private inholdings within the boundaries of the National or State Reservations shown on this map.  
Landmark hydrology verified 1954.

CONTOUR INTERVAL 5 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1989  
TO CONVERT FROM FEET TO METERS, MULTIPLY BY 0.3048  
DEPTH CURVES AND SOUNDINGS IN FEET, DATUM IS MEAN LOWER LOW WATER  
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE  
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 25286, DENVER, COLORADO 80225  
A FOLDER (E-3230) WITH TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

MS




QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Sagadahoc  
2 Nelson Place  
3 Lathrop  
4 Lathrop N  
5 Chease Type  
6 Chease Type  
7  
8 Chase Island

ATTENTION: DRILLING PERMIT REQUIRED, UNLESS NOTED  
ROAD CLASSIFICATION

Primary Highway	Light-duty road, hard or improved surface
Hard surface	
Secondary highway	
Hard surface	Unimproved road

 Interstate Route    U.S. Route    State Route

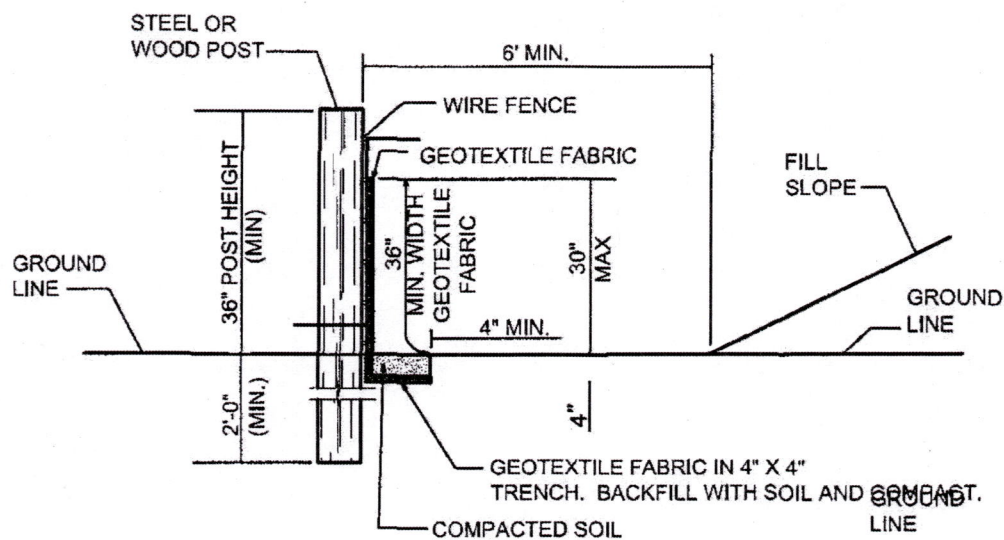
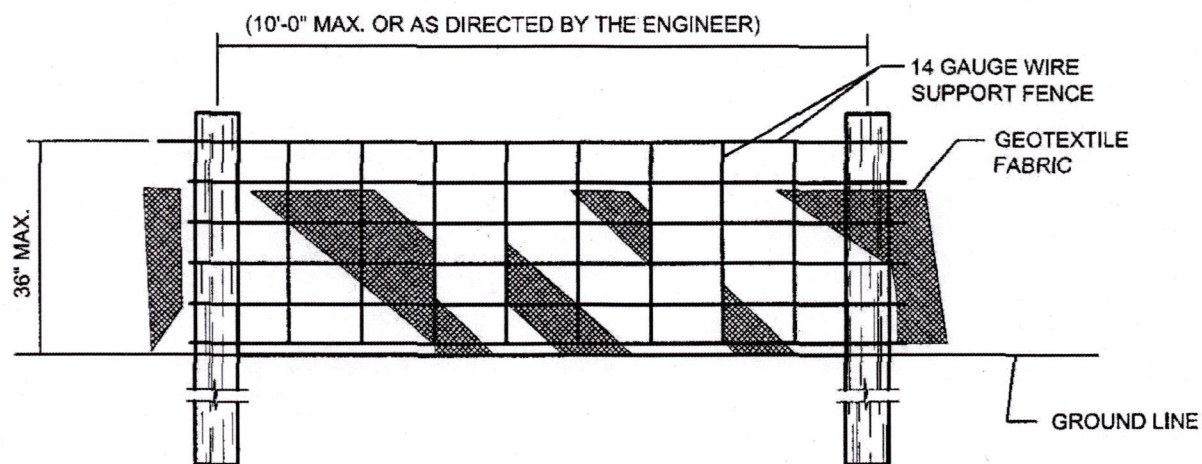
BILOXI, MS  
1992

BILOXI, MS  
1992

NOAA 3246 IN NW-GEODES V843



07/07/2011

SIDE ELEVATIONFRONT ELEVATIONSEE NEXT PAGE  
FOR NOTESTEMPORARY SILT FENCE

SCALE: N.T.S.

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SILT FENCE NOTES:

1. POSTS SHALL BE SPACED A MAXIMUM OF 10' O.C.
2. POSTS SHALL BE A MINIMUM OF 5'-0" IN LENGTH. IN ADDITION POSTS SHALL BE EITHER 2" x 2" N.D. WOOD POST OR HEAVY DUTY STEEL T-POSTS WITH PROJECTIONS FOR WIRE FASTENING.
3. WIRE SUPPORT FENCE SHALL BE A MINIMUM OF 36" IN HEIGHT, SHALL NOT EXTEND MORE THAN 36" ABOVE THE GROUND, AND SHALL EXTEND 2" INTO THE TRENCH.
4. WIRE FENCE SHALL BE A MINIMUM OF 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6". WIRE SHALL BE SECURELY FASTENED TO THE UPSLOPE, PROJECT SIDE OF POSTS USING HEAVY DUTY STAPLES (AT LEAST 1" LONG), TIE WIRES OR HOG RINGS.
5. GEOTEXTILE FABRIC SHALL BE A MINIMUM OF 36" IN HEIGHT, AND SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
6. FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AT THE TOP, MIDDLE, AND BOTTOM OF EACH POST. IN ADDITION THE FABRIC SHALL BE STAPLED OR WIRED TO THE WIRE FENCE APPROXIMATELY ONE HALF (1/2) THE DISTANCE BETWEEN THE POSTS AT THE TOP, MIDDLE AND BOTTOM OF THE WIRE FENCE.
7. GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM OF 3' OVERLAP. EACH FREE END OF THE FABRIC SHALL BE SECURELY TIED TO THE WIRE FENCE AT 6" O.C. VERTICALLY.
8. SILT FENCES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. THE ENTIRE LENGTH OF FENCE SHALL BE CHECKED FOR ANY DAMAGES ON A DAILY BASIS AND BEFORE AND AFTER ANY RAINFALL EVENT, FOR ANY DAMAGES. ANY DAMAGES FOUND SHALL BE REMEDIATED BEFORE THE DAY'S END AT NO ADDITIONAL COST TO THE CITY.
9. SILT FENCES SHALL BE MAINTAINED TO PREVENT ANY MATERIAL FROM MIGRATING FROM THE UPSLOPE SIDE OF THE FENCE. ANY REQUIRED MAINTENANCE OF THE SILT FENCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH RAINFALL EVENT AND WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF (1/2) THE HEIGHT OF THE FENCE.
11. IN ORDER TO PREVENT SEDIMENT LADEN STORM WATER FROM BY-PASSING THE FENCE, IN AREAS WHERE SILT FENCES ARE NOT UTILIZED ON ALL SIDES OF A DISTURBED AREA, THE FENCE SHALL EXTEND BEYOND THE DISTURBED AREA IN J-HOOK SHAPE ON EACH END AS SHOWN IN THE ISOLATED SILT FENCE INSTALLATION PLAN VIEW.

TEMPORARY SILT FENCE

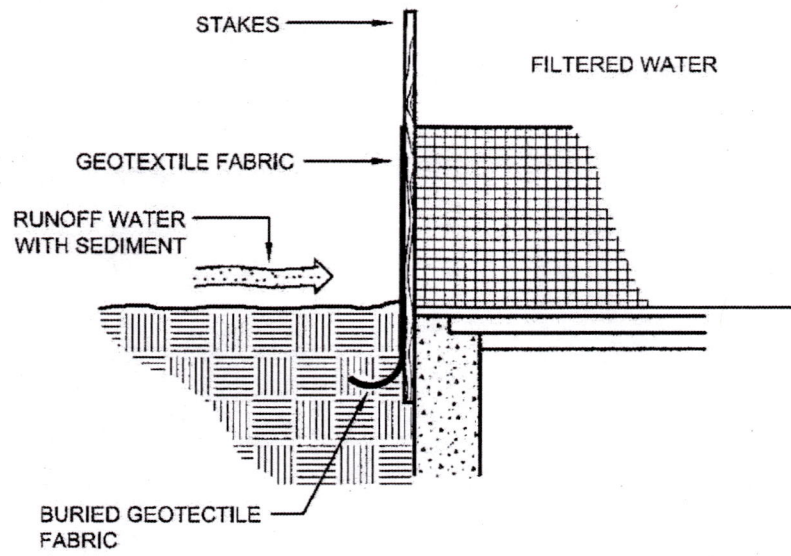
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UPDATED: 4/5/05

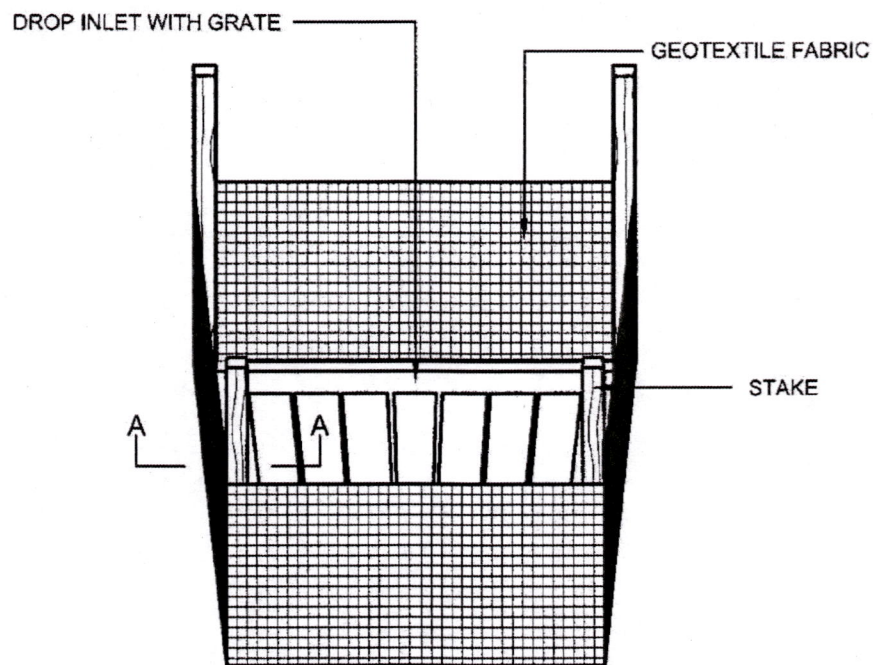
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CONSULTING ENGINEERS

07/07/2011



SECTION A-A



TOP ELEVATION

# TEMPORARY SILT FENCE INLET PROTECTION

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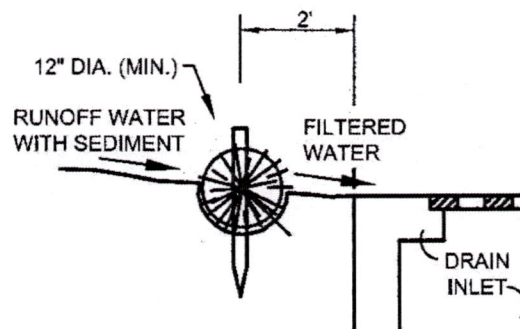
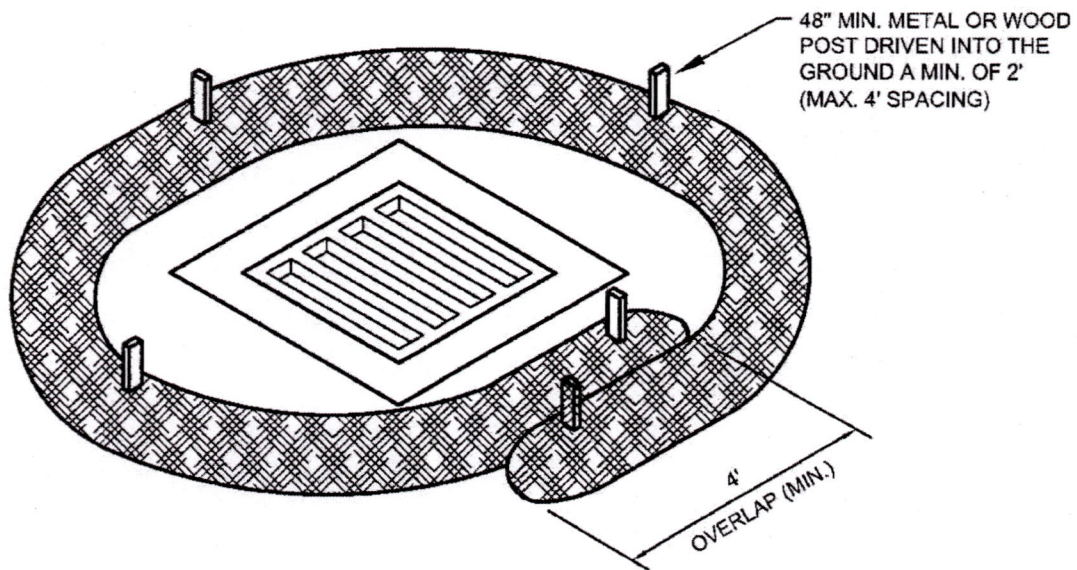
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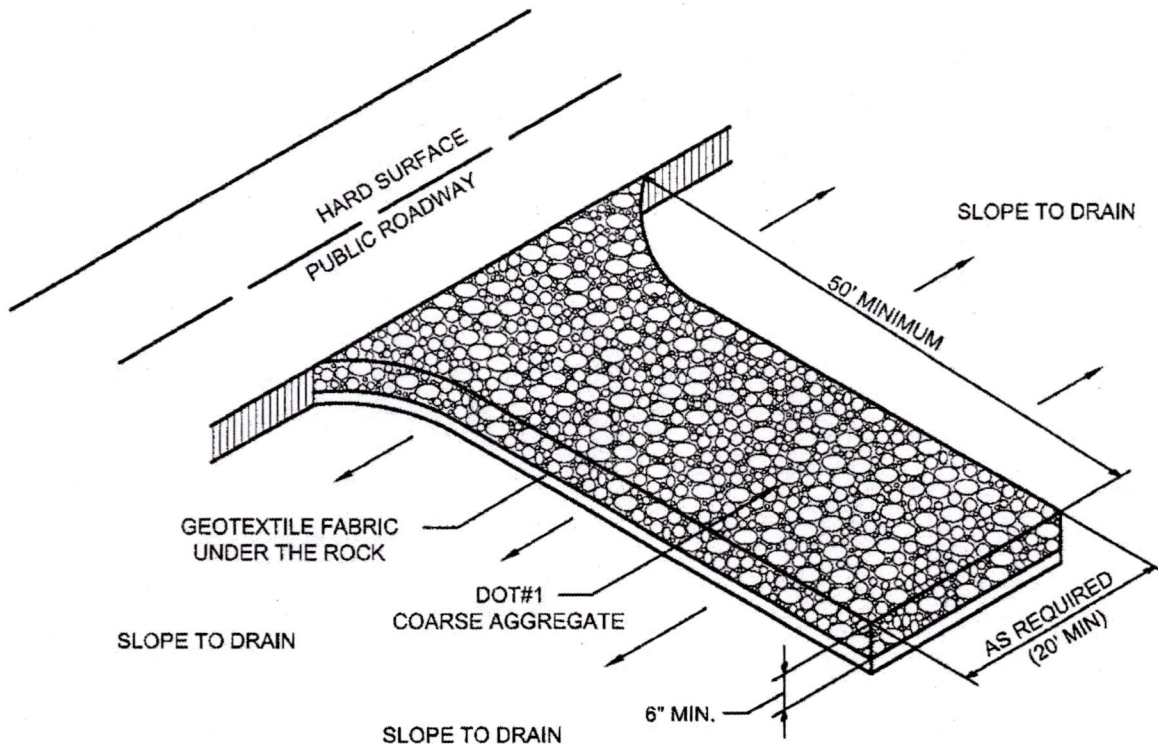
### STRAW WATTLE INLET PROTECTION

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07/07/2011

NOTES:

1. THE AREA OF THE CONSTRUCTION ENTRANCE SHALL BE EXCAVATED 6 INCHES DEEP, 50 FEET LONG AND SHALL EXTEND THE FULL WIDTH OF ANY VEHICULAR INGRESS AND EGRESS (MINIMUM 20 FEET) LOCATED ON THE SITE.
2. THE ENTRANCE SHALL BE PROPERLY MAINTAINED FOR THE DURATION OF THE PROJECT TO PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL MAINTENANCE AND REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE ENTRANCE SHALL BE CHECKED ON A DAILY BASIS AND BEFORE & AFTER ANY RAINFALL EVENT FOR ANY DAMAGES. ANY DAMAGES FOUND SHALL BE REMEDIATED BEFORE THE DAYS END AT NO ADDITIONAL COST TO THE CITY.
4. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT THE FLOW OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED IMMEDIATELY.
5. MEASURES SHALL BE TAKEN TO PREVENT VEHICULAR TRAFFIC FROM BYPASSING THE CONSTRUCTION ENTRANCE DURING INGRESS AND EGRESS.



### TEMPORARY CONSTRUCTION ENTRANCE AND EXIT

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## SEEDING CHART FOR THE STATE OF MISSISSIPPI

SPECIES	SEEDING RATE/ACRE	PLANTING TIME	DESIRED pH RANGE	FERTILIZATION RATE/ACRE	METHOD OF ESTABLISHMENT	ZONE OF ADAPT-ABILITY <sup>1</sup>
<b>Common Bermuda</b>	15 lbs. alone 10 lbs. mixture	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
<b>Bahia</b>	40 lbs. alone 30 lbs. mixture	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	Central South
<b>Fescue</b>	40 lbs. alone 30 lbs. mixture	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	North Central
<b>Saint Augustine</b>	--	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	sod only	Central South
<b>Centipede</b>	4 lbs. alone 2.5 lbs. mix	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
<b>Carpet Grass</b>	15 lbs. alone 10 lbs. mixture	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
<b>Oysia Grass</b>	--	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	sod only	All
<b>Creeping Red Fescue</b>	30 lbs. alone 22.5 lbs. mix	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
<b>Weeping Lovegrass</b>	10 lbs. alone 5 lbs. mix	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed	All
<b>Sericea Lespedeza</b>	40 lbs.	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
<b>*Wheat</b>	90 lbs. alone	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
<b>*Ryegrass</b>	30 lbs.	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
<b>*White Clover</b>	5 lbs.	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
<b>*Crimson Clover</b>	25 lbs. alone 15 lbs. mix	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
<b>*Hairy Vetch</b>	30 lbs.	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
<b>*Browntop Millet</b>	40 lbs. alone 15 lbs. mix	4/1 - 8/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All

\* Annuals. For permanent seeding, annuals can only be used in a mixture with perennials.

North- north of Hwy. 82

Central- south of Hwy. 82 & north of Hwy. 84

South- South of Hwy. 84